WBA
ARCHITECTURE

10 January 2022

BLM Office Renovations
Pearl Public School District – Pearl, MS

ADDENDUM NO. 01

NOTICE TO ALL DOCUMENT HOLDERS:
The following additions, deletions, changes and clarifications to the drawings and specifications are to be included as part of the Contract Documents.

SPECIFICATIONS

ITEM NO. 1 **00.2113 INSTRUCTIONS TO BIDDERS**
BID ENCLOSURES/REQUIREMENTS
Para. 5 BID MODIFICATIONS
Delete Subparagraph 5A in its entirety.
Modifications of bid on the face of the sealed enveloped will be considered.

ITEM NO. 2 **00.4100 BID FORM**
Revise per the **enclosed Bid Form.**
Contract Time has been revised. Allowances have been revised.

ITEM NO. 3 **01.2100 ALLOWANCES**
Revise per the enclosed **Specification Section.**

2727 Old Canton Rd, Ste 200, Jackson, MS 39216
p 601.321.9107 | wbaarchitecture.com

ITEM NO. 4 **08.4313 ALUMINUM-FRAMED STOREFRONTS**

PART 2 PRODUCTS

Para. 1 BASIS OF DESIGN – FRAMING FOR INSULATING GLAZING

Subpara A. Center-Set Style, Thermally-Broken:

Revise to read as follows:

"1. Basis of Design shall be one of the following:

a. EFCO Series 403 (T) thermally broken non-impact framing system.

b. Oldcastle Series FG 3000 Thermally broken non-impact framing system.

2. Vertical Mullion Dimensions: 2 inches wide by 4-1/2 inches deep."

Para. 3 ALUMINUM-FRAMED STOREFRONT

Subpara. A. Aluminum-framed Storefront;

Add sentence to read as follows:

"Basis of Design for interior, non-insulated storefront framing shall be EFCO Series 402 (NT) or Oldcastle Building Envelope Series FG 2000. Substitutions that meet or exceed the performance of these systems shall be considered (see Section 01.6000 – Product Requirements)."

Para. 6 FINISHES

Delete Subparagraph A *(natural anodized finish)*

Delete Subparagraph C *(high performance organic coatings)*

Finish described in Subparagraph B (color anodized finish) shall be required.

DRAWINGS

ITEM NO. 5 **D100 DEMO PLAN**

Revise per the **enclosed sheet.**

ITEM NO. 6 **A100 ARCHITECTURAL SITE PLAN**

Revise per the **enclosed sheet.**

ITEM NO. 7 **A101 FIRST FLOOR PLAN**

A103 FINISH PLAN

Revise per the **enclosed sheets.**

ITEM NO. 8 **A200 EXTERIOR ELEVATIONS**

Revise per the **enclosed sheet.**

ITEM NO. 9 **A300 WALL SECTIONS**

A301 WALL SECTIONS

A302 WALL SECTIONS

A303 WALL SECTIONS

Revise per the **enclosed sheets.**

ITEM NO. 10 **A400 DETAILS**

Revise per the **enclosed sheet.**

ITEM NO. 11 **A601 INTERIOR ELEVATIONS**

Revise per the **enclosed sheet.**

ITEM NO. 12 **S100 STRUCTURAL RENOVATION PLAN**
DETAIL #S 2 & 3 – CONCRETE RAMP & STAIR SECTIONS
Revise note "Paving by Others" **to read "New Conc. Paving – see arch.".**

ITEM NO. 13 **M201 HVAC SCHEDULES**
Revise per the **enclosed sheet.**

ITEM NO. 14 **E000 ELECTRICAL LEGEND**
ED100 DEMOLITION PLAN
E100 LIGHTING PLAN
E300 POWER PLAN
Revise per the **enclosed sheets.**

ITEM NO. 15 **E002 ELECTRICAL DETAILS**
E003 ELECTRICAL SPECS
E004 ELECTRICAL SPECS
E005 ELECTRICAL SPECS
E006 ELECTRICAL SPECS
ADD per the **enclosed sheets.**

NO MORE ITEMS

Encl: Revised Bid Form (2 pages)
Revised Section 01.2100 Allowances (2 pages)
Revised sheet D100
Revised sheet #s A100 , A101 & A103
Revised sheet A200
Revised sheet #s A300, A301, A302 & A303
Revised sheet A400
Revised sheet A601
Revised sheet M201
Revised sheet #s E000, ED100, E100 & E300
Sheet E002 Electrical Details
Sheet #s E003, E004, E005 & E006 Electrical Specs

cc: All Document Holders
File 21-069

WBA
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Bid Form

THE PROJECT AND THE PARTIES

1. TO:
   A. Owner: Pearl Public School District.
2. FOR:
   A. Project: BLM Office Renovations
3. DATE: _____ (BIDDER TO ENTER DATE)
4. SUBMITTED BY: (BIDDER TO ENTER NAME AND ADDRESS)
   A. Bidder's Full Name _____
      1. Address _____
      2. City, State, Zip_____
5. OFFER
   A. Having examined the Place of The Work and all matters referred to in the Instructions to Bidders and the Bid Documents prepared by WBA Architecture, PLLC. for the above mentioned project, we, the undersigned, hereby offer to enter into a Contract to perform the Work for the Sum of:
   B. _____
      _____ dollars
      ($_____), in lawful money of the United States of America.
   C. We have included the required security deposit as required by the Instruction to Bidders.
   D. We have included the required performance assurance bonds in the Bid Amount as required by the Instructions to Bidders.
   E. All applicable federal taxes are included and State of [_____] taxes are included in the Bid Sum.
   F. All Cash and Contingency Allowances described in Section 01.2100 - Allowances are included in the Bid Sum.
6. ACCEPTANCE
   A. This offer shall be open to acceptance and is irrevocable for sixty days from the bid closing date.
   B. If this bid is accepted by Owner within the time period stated above, we will:
      1. Execute the Agreement within seven days of receipt of Notice of Award.
      2. Furnish the required bonds within seven days of receipt of Notice of Award.
      3. Commence work within seven days after written Notice to Proceed of this bid.
   C. If this bid is accepted within the time stated, and we fail to commence the Work or we fail to provide the required Bond(s), the security deposit shall be forfeited as damages to Owner by reason of our failure, limited in amount to the lesser of the face value of the security deposit or the difference between this bid and the bid upon which a Contract is signed.
   D. In the event our bid is not accepted within the time stated above, the required security deposit shall be returned to the undersigned, in accordance with the provisions of the Instructions to Bidders; unless a mutually satisfactory arrangement is made for its retention and validity for an extended period of time.
7. CONTRACT TIME
   A. If this Bid is accepted, we will:
   B. Complete work within "Warehouse 123" and all Site Fencing/Gates within 120 calendar days from Notice to Proceed.
   C. Complete all other Work within 250 calendar days from Notice to Proceed.
8. ADDENDA
   A. The following Addenda have been received. The modifications to the Bid Documents noted below have been considered and all costs are included in the Bid Sum.
      1. Addendum # _____ Dated _____.

2. Addendum # _____ Dated _____.
3. Addendum # _____ Dated _____.
4. Addendum # _____ Dated _____.
5. Addendum # _____ Dated _____.
6. Addendum # _____ Dated _____.
7. Addendum # _____ Dated _____.

9. ALLOWANCES
   A. The following Allowances are included in the Base Bid (see Section 01.2100):
      1. Door Hardware Allowance: $9,500.00
      2. Access Control Systems Allowance: $5,500.00
      3. Interior Slab Repairs: $5,000.00.
      4. Contingency Allowance: $10,000.00
10. BID FORM SIGNATURE(S)
    A. The Corporate Seal of
    B. _____
    C. (Bidder - print the full name of your firm)
    D. was hereunto affixed in the presence of:
    E. _____
    F. (Authorized signing officer, Title)
    G. (Seal)
    H. _____
    I. (Authorized signing officer, Title)
11. IF THE BID IS A JOINT VENTURE OR PARTNERSHIP, ADD ADDITIONAL FORMS OF EXECUTION FOR EACH MEMBER OF THE JOINT VENTURE IN THE APPROPRIATE FORM OR FORMS AS ABOVE.
12. RESIDENT BIDDER
    A. The Bidder is a : (check which applies) _____ RESIDENT or _____ NON-RESIDENT of the state of Mississippi.
    B. Phone No.: _____
    C. Email: _____

END OF SECTION

SECTION 01.2100

Allowances

PART 1 GENERAL

1. SECTION INCLUDES
   A. Cash allowances.
   B. Payment and modification procedures relating to allowances.
2. RELATED REQUIREMENTS
   A. Section 01.2000 - Price and Payment Procedures: Additional payment and modification procedures.
3. CASH ALLOWANCES
   A. Costs Included in Cash Allowances: Cost of product to Contractor or subcontractor, including product delivery to site and handling at the site, including unloading, uncrating, and storage; protection of products from elements and from damage; and labor for installation and finishing, less applicable trade discounts , less Overhead, Profit, Bond and Insurance costs associated with cash allowances. Overhead, Profit, Bond and Insurance costs shall be included in Base Bid costs in addition to the related cash allowances..
   B. Architect Responsibilities:
      1. Consult with Contractor for consideration and selection of products, suppliers , and installers.
      2. Select products in consultation with Owner and transmit decision to Contractor.
      3. Prepare Change Order at Project Closeout to adjust Contract Sum for un-used allowance amounts.
   C. Contractor Responsibilities:
      1. Assist Architect in selection of products, suppliers , and installers.
      2. Advise the Architect of dates when final selection and purchase assocatied with allownaces must be completed to avoid delay of work.
      3. Obtain proposals from suppliers and installers and offer recommendations.
      4. Submit proposals for Architects review and approval prior to purchase.
      5. On notification of which products have been selected, execute purchase agreement with designated supplier and installer.
      6. Arrange for and process shop drawings, product data, and samples. Arrange for delivery.
      7. Promptly inspect products upon delivery for completeness, damage, and defects. Submit claims for transportation damage.
   D. Differences in costs will be adjusted by Change Order prior to closeout.
4. CONTINGENCY ALLOWANCE
   A. Contractor's costs for products, delivery, installation, labor, insurance, payroll, taxes, bonding, equipment rental, overhead and profit will be included in Change Orders authorizing expenditure of funds from this Contingency Allowance.
   B. At closeout of Contract, funds remaining in Contingency Allowance will be credited to Owner by Change Order.
5. ALLOWANCES SCHEDULE
   A. Section 08710 - Door Hardware: Include the stipulated sum of $9,500.00 for purchase and delivery, of door hardware excluding access control; and automatic door operators. (material only)
   B. [Access Control System and Automatic Door Operators]: Include the stipulated sum of $[5,500.00] for purchase, delivery, and installation of the access control system and all automatic door operators.
   C. Interior Slab repairs: Include the stipulated sum of $[5,000] for purchase, delivery and installation of work required to repairing minor cracks, levelness & other similar damage to existing interior concrete floor slabs. Note! costs for slab sawcutting, removal & patching that is required for due to installation of under-slab utilities shall NOT be included this allowance.

D. Contingency Allowance: Include the stipulated sum/price of $10,000 for use upon Architect's and/or Owner's instructions.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

KEYNOTES - DEMOLITION

EXTERIOR DEMOLTION

1.1 DEMO EXISTING EXTERIOR WALL

1.2 DEMO EXISITNG EXTERIOR STAIR

1.3 DEMO EXISTING TRUCK LEVELER

1.4 PREP EXISITNG EXTERIOR WALL FOR A NEW CLADDING

1.5 DEMO EXISTING EXTERIOR DOOR

INTERIOR DEMOLTION

2.1 DEMO EXISTING PARTITIONS. DEMO ASSOCIATED OPENINGS

2.2 DEMO EXISTING WALLS AND PORTION OF EXISTING Z-PURLINS

2.3 DEMO EXISTING STEEL BOLLARD. CUT FLUSH W/ EXISTING SLAB & FILL VOID W/ NON-SHRINK GROUT.

2.4 SAWCUT & REMOVE PORTION OF EXISTING FLOOR SLAB FOR INSTALLATION OF FOUNDATION FOR NEW STAIR.

2.5 SAWCUT & ROUGHEN PORTION OF EXISTING SLAB FOR INSTALLATION OF SLOPED GROUT (SEE WALL SECTIONS).

GEN. NOTES - DEMOLITION

A. ALL INFORMATION IS BASED ON FIELD OBSERVATIONS & OWNER SUPPLIED DOCUMENTS & MAY NOT REFLECT ACTUAL FIELD CONDITIONS. UPON DISCOVERY OF ANY DISCREPANCIES BETWEEN DRAWINGS DEPICTING EXIST. CONDITIONS OR UPON DISCOVERY OF UNKNOWN CONDITIONS DETRIMENTAL TO THE COMPLETION OF OF THE WORK AS INDICATED IN THE DOCUMENTS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT, IN WRITING, OF THE CONDITION IN QUESTION BEFORE PROCEEDING WITH WORK IN THAT AREA.

B. SALVAGE IS DEFINED AS CAREFULLY REMOVING & RETAINING ITEMS FOR REUSE. FURTHER EVALUATION OF CERTAIN ITEMS IN TERMS OF SALVAGE DESIRABILITY MAY OCCUR PRIOR TO CONSTRUCTION.

C. CONTRACTOR IS RESPONSIBLE FOR ALL SHORING & BRACING NECESSARY TO MAINTAIN INTEGRITY OF EXIST. STRUCTURE AT ALL TIMES.

D. IF ANY EXIST. FIREPROOFING OR ASSEMBLIES WHICH ARE INDICATED TO REMAIN ARE DAMAGED DURING DEMOLITION THE CONTRACTOR SHALL REPAIR DAMAGE TO THE LEVEL OF THE ORIGINAL FIRE PROTECTION REQUIREMENTS.

E. CARE SHALL BE TAKEN AT INTERFACE BETWEEN DEMOLITION & EXIST. CONSTRUCTION TO REMAIN TO AVOID DAMAGE TO ALL SYSTEMS TO REMAIN. ALL EXIST. CONSTRUCTION REMAINING AFTER DEMOLITION THAT INTERFERES WITH NEW CONSTRUCTION SHALL BE REMOVED AS DIRECTED BY THE ARCHITECT UPON NOTIFICATION BY THE CONTRACTOR.

G. REMOVE EXIST. CONSTRUCTION AS INDICATED. THE TYPICAL WALL REMOVAL INCLUDES FINISHES & MECHANICAL, PLUMBING & ELECTRICAL SYSTEMS CONTAINED THEREIN. REMOVE ALL WALLCOVERING @ WALLS TO REMAIN & PREP FOR PAINT WITHIN EXTENTS OF PHASE. REMOVE ALL WALL BASE. REMOVE DOORS, CASEWORK, WINDOWS, FRAMES, & OTHER FIXTURES AS REQUIRED. REMOVE ALL WINDOW COVERINGS IN THEIR ENTIRETY. AFTER REMOVAL OF PIPE CHASES, PATCH HOLES IN FLOORS OR EXIST. WALLS TO REMAIN TO MEET ORIGINAL FIRE PROTECTION & STRUCTURAL REQUIREMENTS. PATCH ADJOINING WALLS, FLOORS & DECK & PREPARE SURFACES TO RECEIVE A NEW FINISH AS PER FINISH SCHEDULE. REMOVE ALL REMAINING MORTAR / SETTING BEDS & RESIDUE FROM EXIST. FLOORING SURFACES.

H. THE CONTRACTOR SHALL BE RESPONSIBLE FOR EXIST. SUBSTRATE CORRECTION IN ALL AREAS WHERE MECHANICAL, PLUMBING & ELECTRICAL EQUIP. & SERVICES ARE REMOVED.

I. IT IS INTENDED THAT REMOVAL OF ALL MAJOR MECHANICAL, PLUMBING & ELECTRICAL ITEMS BE COMPLETED BY THEIR RESPECTIVE TRADES. ALL ITEMS TO BE REMOVED ARE NOT NECESSARILY SHOWN ON THESE DOCUMENTS. ONCE REMOVAL OF MAJOR ITEMS IS COMPLETED BY RESPECTIVE TRADES, THE REMAINING ITEMS ARE TO BE REMOVED BY THE GENERAL CONTRACTOR.

J. DEMOLITION WORK SHALL BE EXECUTED IN CONFORMANCE WITH ALL CODES & ORDINANCES AS SET FORTH BY ALL GOVERNING AUTHORITIES.

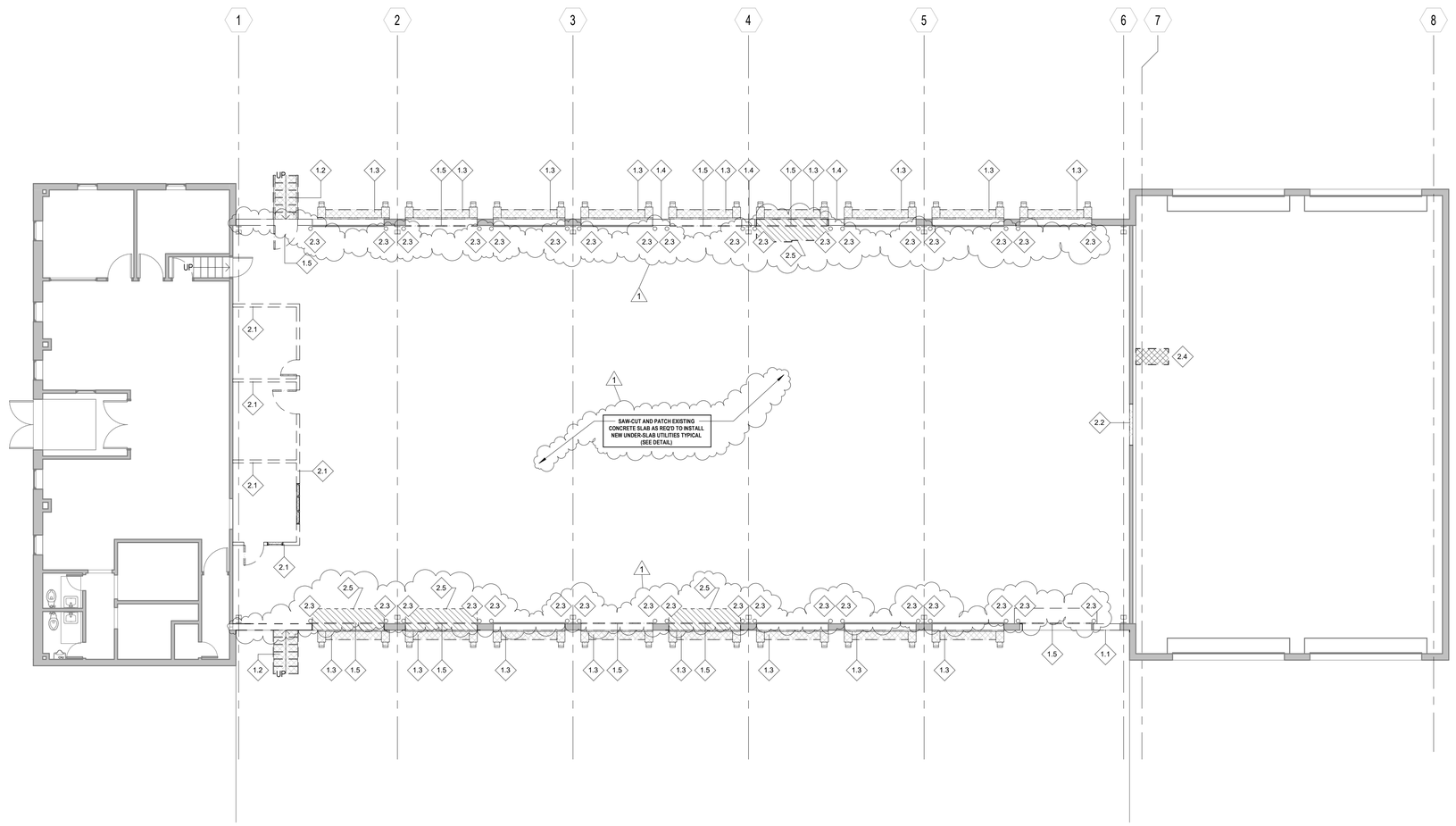
K. THE CONTRACTOR SHALL NOTIFY, COORDINATE, SCHEDULE & RECEIVE PRIOR PERMISSION FROM THE OWNER IF ANY SHUTDOWN OF SERVICES IS NECESSARY TO COMPLETE THE WORK. NOTIFICATION SHALL INCLUDE THE TYPE OF SERVICE, AREA AFFECTED, REQUESTED SHUTDOWN TIME, LENGTH OF TIME, SERVICE TO BE DISCONNECTED & PROPOSED RECONNECTION TIME. PROVIDE MIN. 48-HOURS WRITTEN NOTICE TO OWNER FOR ALL SCHEDULED SHUT-DOWNS. DO NOT PERFORM UTILITY SHUT-DOWNS WITHOUT THE OWNERS WRITTEN CONSENT. COORDINATE WORK RELATED TO SHUT-DOWN TO MINIMIZE UTILITY DOWN- TIME. THE OWNER SHALL REQUIRE ALL UTILITY SHUT-DOWNS TO BE PREFORMED AT NON-PEAK DEMAND TIMES. THE OWNER MAY REQUIRE UTILITY SHUT-DOWNS TO BE PREFORMED AFTER NORMAL BUSINESS HOURS.

L. ALL OPNG.S, GAPS & VOIDS IN EXIST. CONSTRUCTION LEFT OR UNCOVERED BY DEMOLITION ARE TO BE FILLED USING MATERIALS THAT MATCH SIZE & CONFIGURATION OF ADJACENT EXIST. CONSTRUCTION UNLESS OTHERWISE NOTED HEREIN & AS APPROVED BY THE ARCHITECT.

M. CONTRACTOR SHALL MAINTAIN ADEQUATE EGRESS AT ALL TIMES.

N. SEE HAZARDOUS MATERIAL INSPECTION REPORTS & ABATEMENT SPECIFICATION DIAGRAMS FOR EXTENT OF ACM. & LBP. TO BE ABATED.

O. WHERE EXISTING CEILINGS ARE TO BE DEMOLISHED, DEMOLISH CEILING IN ITS ENTIRETY INCLUDING, BUT NOT LIMITED TO, SUSPENDED CEILING ASSEMBLIES, DIRECT MOUNT CEIILNG ASSEMBLIES, LIGHTING FIXTURES, & MECH. GRILLES.



1 Floor DEMO PLAN
1/8" = 1'-0"

WBA ARCHITECTURE

BLM OFFICE RENOVATIONS

3405 Hwy. 80 E
Pearl, MS

REGISTERED ARCHITECT
JAMES RICHMOND WIER, JR.
4446
STATE OF MISSISSIPPI

BIDDING DOCUMENTS
12.08.21

WBA # 21-069

REVISIONS

NO.	DESCRIPTION	DATE
1	Addendum No. 1	01/10/22

D100
DEMO PLAN

1 Site Plan
1" = 20'-0"

WBA ARCHITECTURE

BLM OFFICE RENOVATIONS

3405 Hwy. 80 E
Pearl, MS

REGISTERED ARCHITECT
JAMES RICHMOND WIER, Jr.
4446
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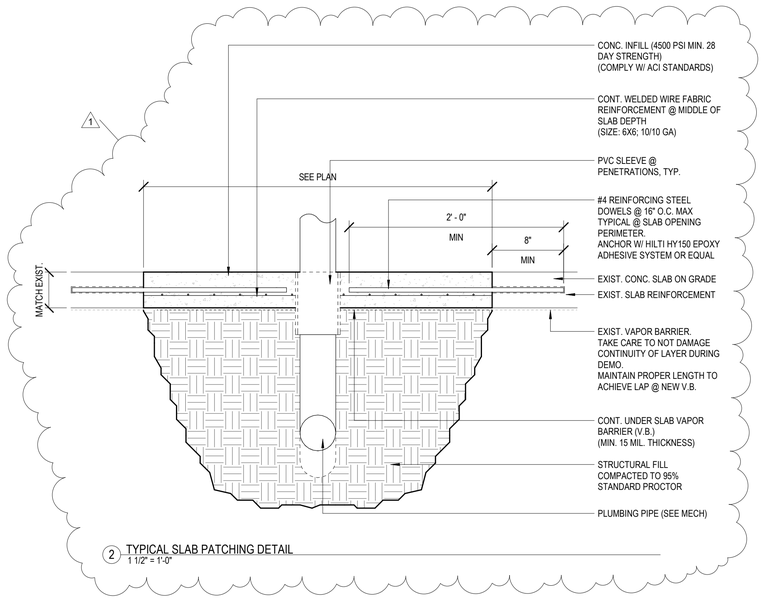
REVISIONS

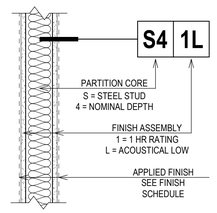
NO.	DESCRIPTION	DATE
1	Addendum No. 1	01/10/22

A100
ARCHITECTURAL SITE PLAN



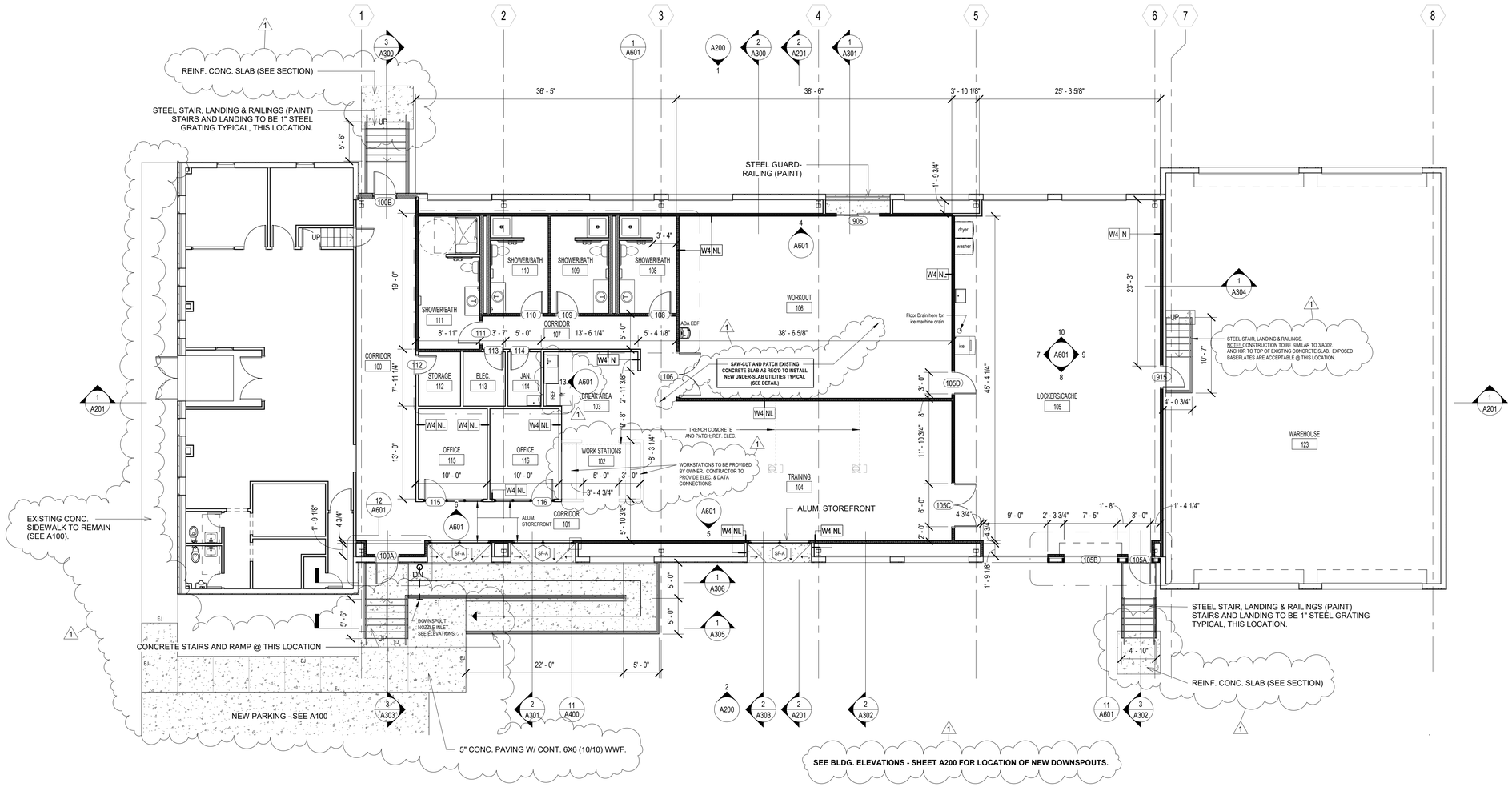
2 TYPICAL SLAB PATCHING DETAIL
1 1/2" = 1'-0"

PARTITION SCHEDULE



NOTE:
SEE FINISH SCHEDULE & INTERIOR ELEVATIONS FOR TYPES & EXTENTS OF APPLIED FINISHES .

		FIRE RATED CRITERIA				ADDITIONAL PERFORMANCE CRITERIA				
		N = NON-RATED	**S** = SMOKE PARTITION	**1** = 1 HR RATED	**2** = 2 HR RATED	**F** = FURRED OUT	**L** = ACOUSTICAL LOW		**H** = ACOUSTICAL HIGH	
FINISH ASSEMBLY		EXTEND FIN. 6" ABV. CLG., OR TO UNDERSIDE OF DECK WHERE NO CLG. IS PRESENT OR EXPOSED TO VIEW.	EXTEND FULL ASSEMBLY TO UNDERSIDE OF DECK & SEAL SEAMS, PENETRATIONS, & TRANSITIONS AS REQ'D. BY CODE & INDICATED **UL** ASY.			ADD THE FOLLOWING TO THE FIN. ASY.	EXTEND FIN. ASY. TO UNDERSIDE OF DECK, & ADD THE FOLLOWING TO THE FIN. ASY.			
PARITION CORE										
CORE MAT.	**NOM. WIDTH**									
C = C.I.P. CONC.	**6** = 6" C.I.P.	N/A	N/A	N/A	N/A	ADD 5/8" GYP. BD. 1 SIDE ON 7/8" MTL. FURRING	N/A		N/A	
SEE STRUCT. DWGS. FOR DTL'D. REQ.	**8** = 8" C.I.P.	N/A	N/A	N/A	N/A		N/A		N/A	
M = CMU (CONC. MAS. UNITS)	**4** = 4" CMU	N/A	N/A	N/A	N/A	ADD 5/8" GYP. BD. 1 SIDE ON 7/8" MTL. FURRING	N/A		N/A	
SEE STRUCT. DWGS. FOR DTL'D. REQ.	**6** = 6" CMU	N/A	N/A	UL ASSEMBLY U906			ADD GROUT TO CELLS	STC 51	N/A	
	8 = 8" CMU	N/A	N/A					STC 55	N/A	
S = STEEL STUD FRAMING	**0 = 7/8" FURRING**	5/8" GYP. BD. 1 SIDE ONLY		N/A	N/A	N/A	N/A		N/A	
FRAMING EXTENDS TO UNDERSIDE OF DECK U.N.O.	**1 = 1 1/2" STUD**			N/A	N/A	N/A	N/A		N/A	
	2 = 2 1/2" STUD	5/8" GYP. BD. EA. SIDE		5/8" GYP. BD. EA. SIDE UL ASY. U419	2 LAYERS OF 5/8" GYP. BD. EA. SIDE UL ASY. U419	N/A	ADD ACOUS. BATT IN FRAMING	STC 45-48	ADD 2ND GYP. BD. LAYER 1 SIDE, 1/2" RC. ON OPP. SIDE, ACCOUS. BATT IN FRAMING	STC 50-56
	4 = 3 5/8" STUD					N/A		STC 49-52		STC 54-59
	6 = 6" STUD					N/A		STC 51-54		STC 56-61
W = WOOD STUD FRAMING	**0 = 1/2" FURRING**	5/8" GYP. BD. 1 SIDE ONLY		N/A	N/A	N/A	N/A		N/A	
FRAMING EXTENDS TO UNDERSIDE OF DECK U.N.O.	**4 = 3 1/2" STUD**	5/8" GYP. BD. EA. SIDE		5/8" GYP. BD. EA. SIDE UL ASY. U305	2 LAYERS 5/8" GYP. BD. EA. SIDE, 1/2" RC. 1 SIDE UL ASSEMBLY U334	N/A	ADD ACOUS. BATT IN FRAMING	STC 39-52	N/A	
	6 = 5 1/2" STUD					N/A		STC 39-52	N/A	
X = SPECIAL CONSTRUCTION	**2 = 2 1/2" C-H STUD SHAFT WALL**	N/A	N/A	5/8" GYP. BD. 1 SIDE, 1" GYP. BD. LINER PANEL FRICTION FIT UL ASY. U415 A	2 LAYERS 5/8" GYP. BD. 1 SIDE, 1" GYP. BD. LINER PANEL FRICTION FIT UL ASY. U415 B	N/A	ADD ACOUS. BATT IN FRAMING	STC 45-48	ADD 1/2" RC. 1 SIDE, ACOUS. BATT IN FRAMING	N/A
	4 = 4" C-H STUD SHAFT WALL	N/A	N/A			N/A		STC 47-50		N/A
	6 = 6" C-H STUD SHAFT WALL	N/A	N/A			N/A		STC 49-52		N/A



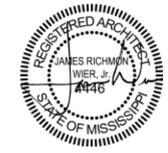
1 Floor Plan
1/8" = 1'-0"

0' 4' 8' 16' 32'

WBA ARCHITECTURE

BLM OFFICE RENOVATIONS

3405 Hwy. 80 E
Pearl, MS



BIDDING DOCUMENTS
12.08.21

WBA # 21-069

REVISIONS

NO.	DESCRIPTION	DATE
1	Addendum No. 1	01/10/22

A101
FIRST FLOOR PLAN

FINISH SCHEDULE

ROOM #	ROOM NAME	FLOOR FIN.	BASE	WALL FIN.	CEILING FIN.	MILLWORK	COUNTER TOP	COMMENTS
100	CORRIDOR	SEALED CONC.	RB-1	PAINT	A.C.T.			
101	CORRIDOR	SEALED CONC.	RB-1	PAINT	EXPOSED STRUCT.			
102	WORK STATIONS	SEALED CONC.	RB-1	PAINT	EXPOSED STRUCT.			
103	BREAK AREA	SEALED CONC.	RB-1	PAINT	EXPOSED STRUCT.	PLAM-1	SS-1	
104	TRAINING	SEALED CONC.	RB-1	PAINT	EXPOSED STRUCT.			
105	LOCKERS/CACHE	SEALED CONC.	RB-1	PAINT	EXPOSED STRUCT.			
106	WORKOUT	SEALED CONC.	RB-1	PAINT	EXPOSED STRUCT.			
107	CORRIDOR	SEALED CONC.	RB-1	PAINT	EXPOSED STRUCT.			
108	SHOWER/BATH	PFT-1	PWB-1	PAINT / CWT-1	GYP. BD. (PAINT)	PLAM-1	SS-1	
109	SHOWER/BATH	PFT-1	PWB-1	PAINT / CWT-1	GYP. BD. (PAINT)	PLAM-1	SS-1	
110	SHOWER/BATH	PFT-1	PWB-1	PAINT / CWT-1	GYP. BD. (PAINT)	PLAM-1	SS-1	
111	SHOWER/BATH	PFT-1	PWB-1	PAINT / CWT-1	GYP. BD. (PAINT)	PLAM-1	SS-1	
112	STORAGE	SEALED CONC.	RB-1	PAINT	EXPOSED STRUCT.			
113	ELEC.	SEALED CONC.	RB-1	PAINT	EXPOSED STRUCT.			
114	JAN.	SEALED CONC.	RB-1	PAINT	EXPOSED STRUCT.			
115	OFFICE	CPT-1	RB-1	PAINT	A.C.T.			
116	OFFICE	CPT-1	RB-1	PAINT	A.C.T.			
123	WAREHOUSE							

FLOOR FINISH LEGEND

PFT-1

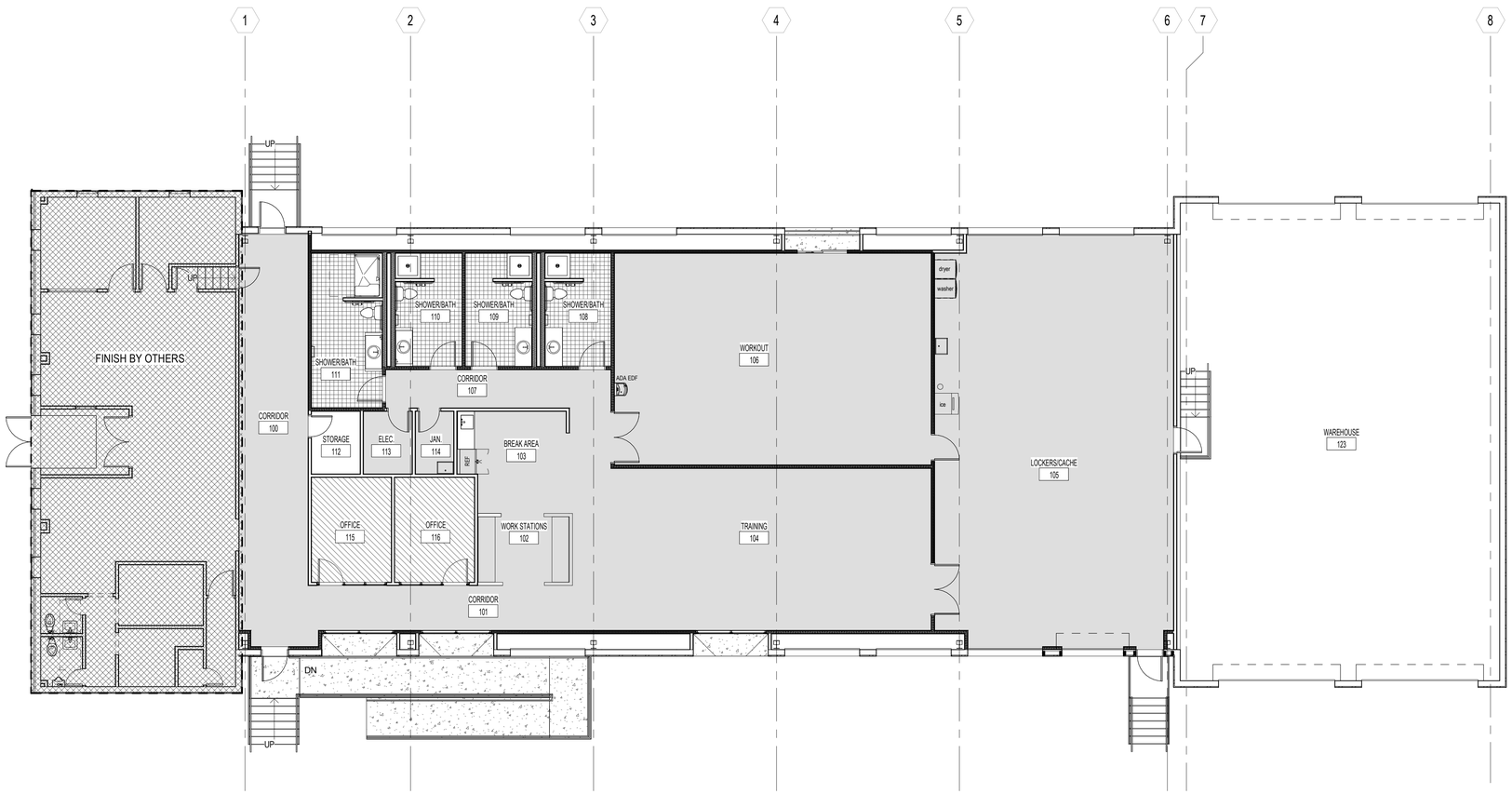
CPT-1

SEALED CONC.

NOTE: HATCH PATTERN DOES NOT REPRESENT FLOOR PATTERN OR INSTALLATION PATTERN. REFER TO FINISH LEGEND.

FINISH LEGEND

CATEGORY	FINISH CODE	TYPE	MANUF.	NAME	PATTERN	COLOR	SIZE	INSTALLATION METHOD
CEILING FINISH	ACT-1	ACOUS. C.L.G. - GENERIC	ARMSTRONG	ULTIMA	TEGULAR	WHITE	24X24	
CEILING FINISH	GYP	GYPSUM WALLBOARD CEILING, PAINTED	USG	-	-	-	TBD	
COUNTERTOP	SS-1	COUNTERTOP, SOLID SURFACE - COLOR 1	LIVING STONE	SOLID SURFACE	APOLLO	L718		
FLOOR FINISH	CPT-1	CARPET - STYLE 1	INTERFACE	PROGRESSION III	-	DAYLIGHT #105534	25CM X 1M	ASHLAR
FLOOR FINISH	PFT-1	PORCELAIN FLOOR TILE - FEILD TILE	GARDEN STATE TILE	VENEZIANO TERRAZO	-	LIGHT GREY	12 X 24 X 10.5MM	RUNNING BOND 1/3 OFFSET
MILLWORK	PLAM-1	MILLWORK, PLASTIC LAMINATE - COLOR 1	WILSON ART			STEEL MESH 4979-38	TBD	
WALL BASE	PWB-1	PORCELAIN WALL BASE, STYLE 1	SCHLUTER	DILEX-AHK COVE		AE	TBD	
WALL BASE	RB-1	RUBBER BASE, COLOR 1	TBD				TBD	
WALL FINISH	CWT-1	CERAMIC WALL TILE - STYLE 1	AMERICAN OLEAN	BRIGHT		ICE WHITE	3 X 6	RUN HORIZONTAL W/ 1/2 OFFSET
WALL FINISH	P-1	WALL PAINT - MAIN WALL COLOR	SHERWIN WILLIAMS			TBD		
WALL FINISH	P-2	WALL PAINT - ACCENT COLOR	SHERWIN WILLIAMS			TBD		
WALL FINISH	P-3	WALL PAINT - ACCENT COLOR	SHERWIN WILLIAMS			TBD		



1 First Floor Finish Plan
1/8" = 1'-0"

WBA ARCHITECTURE

BLM OFFICE RENOVATIONS

3405 Hwy. 80 E
Pearl, MS

REGISTERED ARCHITECT
JAMES RICHMOND WIER, Jr.
4446
STATE OF MISSISSIPPI

BIDDING DOCUMENTS
12.08.21

WBA # 21-069

REVISIONS

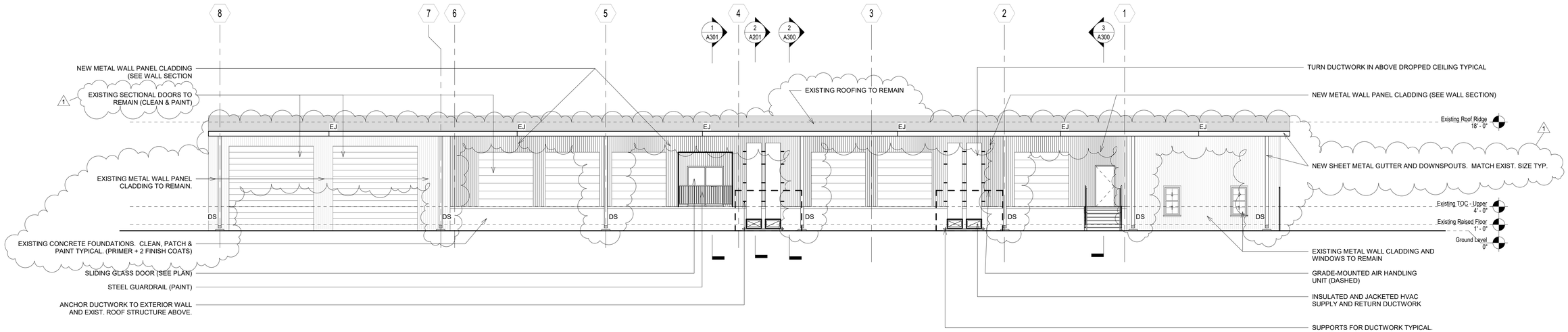
NO.	DESCRIPTION	DATE
1	Addendum No. 1	01/10/22

A103
FINISH PLAN

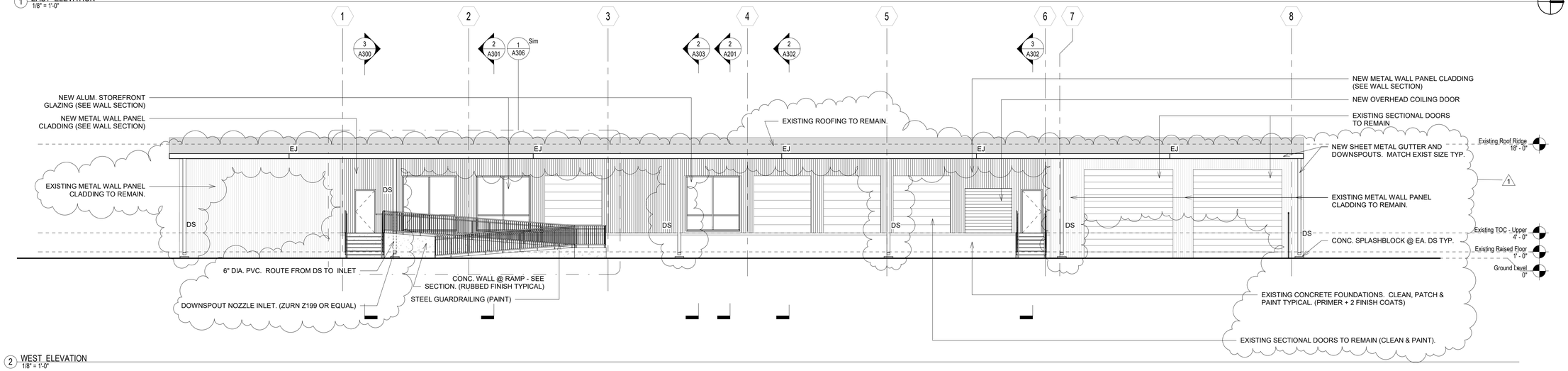
WBA
ARCHITECTURE

BLM OFFICE RENOVATIONS

3405 Hwy. 80 E
Pearl, MS



1 EAST ELEVATION
1/8" = 1'-0"



2 WEST ELEVATION
1/8" = 1'-0"

REGISTERED ARCHITECT
JAMES RICHMOND WIER, Jr.
#1446
STATE OF MISSISSIPPI

BIDDING DOCUMENTS
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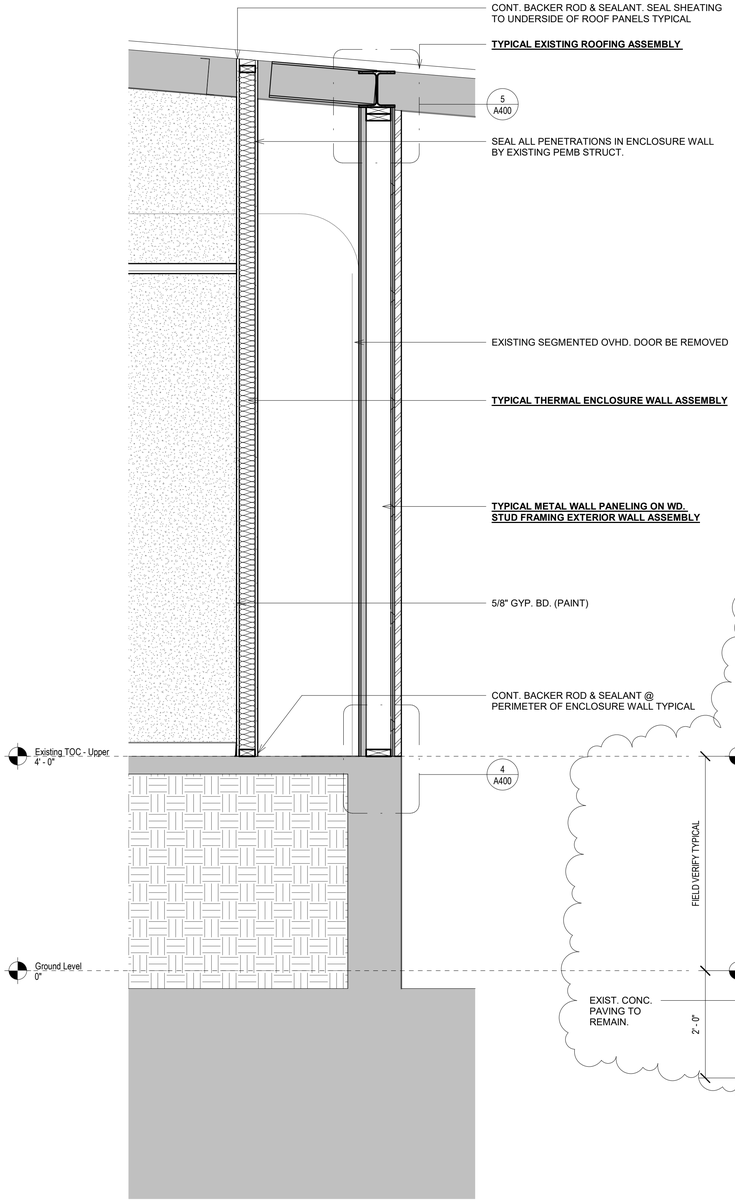
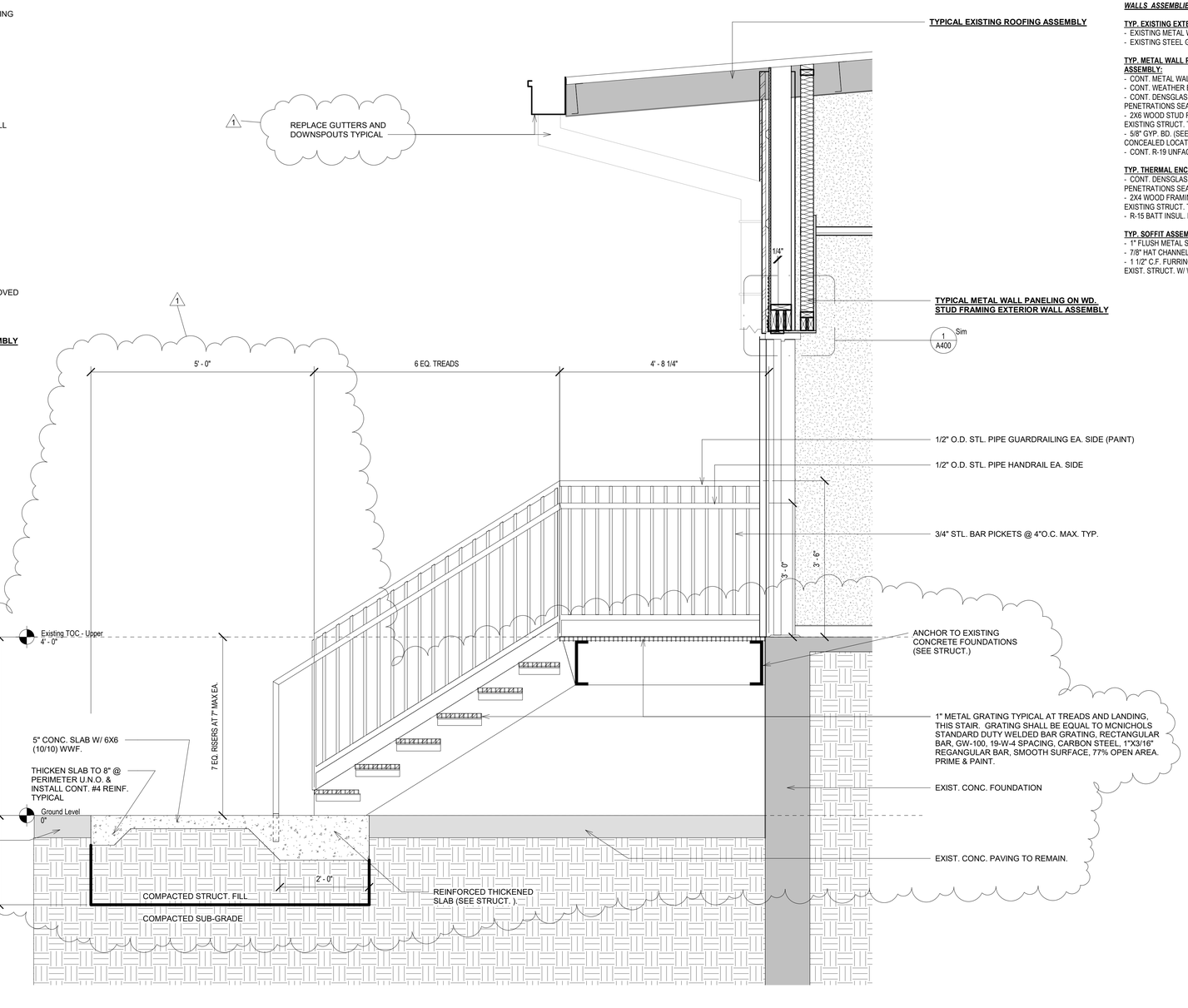
A200
EXTERIOR ELEVATIONS



2 WALL SECTION B
3/4" = 1'-0"



3 WALL SECTION
3/4" = 1'-0"

GENERAL ASSEMBLY NOTES:
1. SEE SPECIFICATIONS FOR MORE DETAILED REQUIREMENTSOF EA. ASSEMBLY ITEM, TYP.
2. COORD. FRAMING W/ STRUCT. DWGS.
3. COORD. SHEATHING W/ STRUCT. DWGS. TAPE ALL JOINTS & SEAL ALL PENETRATIONS.
4. COORD. MASONRY REINFORCING W/ STRUCT. DWGS.
5. SEE FINISH SCHED. FOR INTERIOR FINISH MATERIALS

ROOF ASSEMBLIES:

TYP. EXISTING ROOFING ASSEMBLY:
- EXISTING MTL. ROOFING PANELS W/ COATING TO REMAIN.
- EXISTING CONT. BATT INSUL. W/ VAPOR BARRIER. PATCH AS REQUIRED TO MAINTAIN CONTINUITY IN THERMAL/MOISTURE BARRIER.
- EXISTING STEEL PURLINS TO REMAIN.

WALLS ASSEMBLIES:

TYP. EXISTING EXTERIOR WALL ASSEMBLY:
- EXISTING METAL WALL PANEL SYS. TO REMAIN
- EXISTING STEEL GIRTS TO REMAIN.

TYP. METAL WALL PANELING ON WD. STUD FRAMING EXTERIOR WALL ASSEMBLY:
- CONT. METAL WALL PANEL SYSTEM/TRIM.
- CONT. WEATHER BARRIER (TYVEK COMMERCIAL WRAP OR EQUAL).
- CONT. DENSGLAS SHEATHING W/ ALL JOINTS TAPED. ALL PENETRATIONS SEALED. TYP.
- 2X6 WOOD STUD FRAMING @ 16" O.C. MAX. TYPICAL. ANCHOR TO EXISTING STRUCT. TYP.
- 5/8" GYP. BD. (SEE FINISH SCHEDULE) GYP. BD. NOT REQUIRED IN CONCEALED LOCATIONS.
- CONT. R-19 UNFACED BATT INSUL. INFILL.

TYP. THERMAL ENCLOSURE WALL ASSEMBLY:
- CONT. DENSGLAS SHEATHING W/ ALL JOINTS TAPED AND ALL PENETRATIONS SEALED TYPICAL.
- 2X4 WOOD FRAMING @ 16" O.C. MAX. TYP. ANCHOR AND BRACE TO EXISTING STRUCT. TYP.
- R-15 BATT INSUL. INFILL TYP.

TYP. SOFFIT ASSEMBLY:
- 1" FLUSH METAL SOFFIT PANEL / TRIM ASSEMBLY.
- 7/8" HAT CHANNELS @ 16" O.C. MAX.
- 1 1/2" C.F. FURRING CHANNELS @ 24" O.C. MAX. SUSPEND FROM EXIST. STRUCT. W/ WIRES @ 24" O.C. MAX E/W.

WBA ARCHITECTURE

BLM OFFICE RENOVATIONS

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REVISIONS

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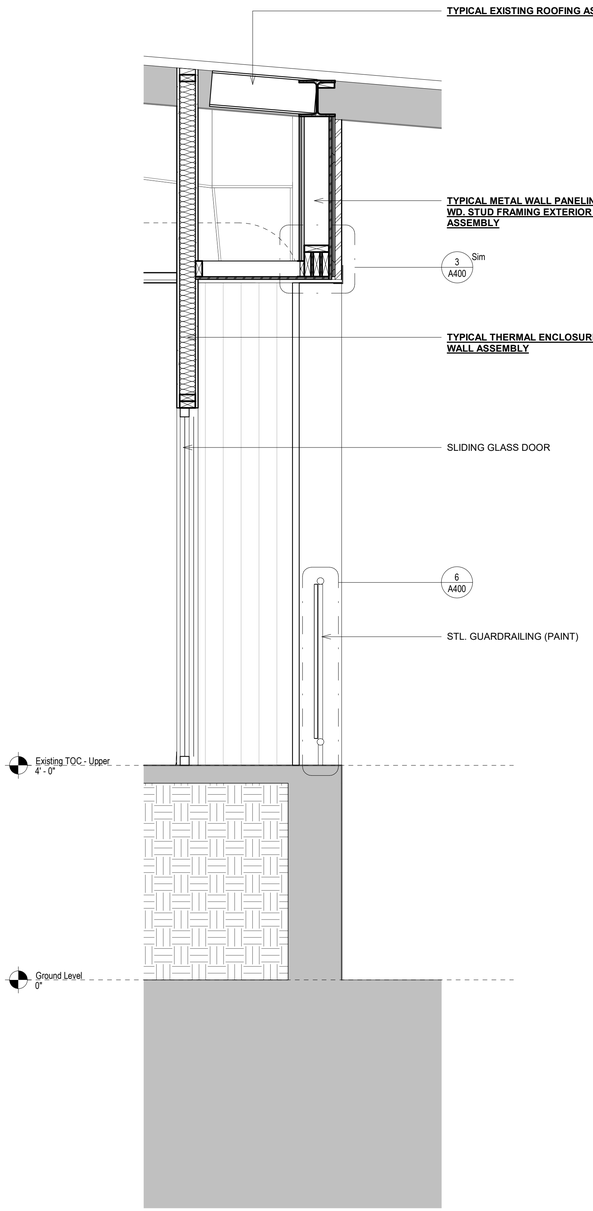
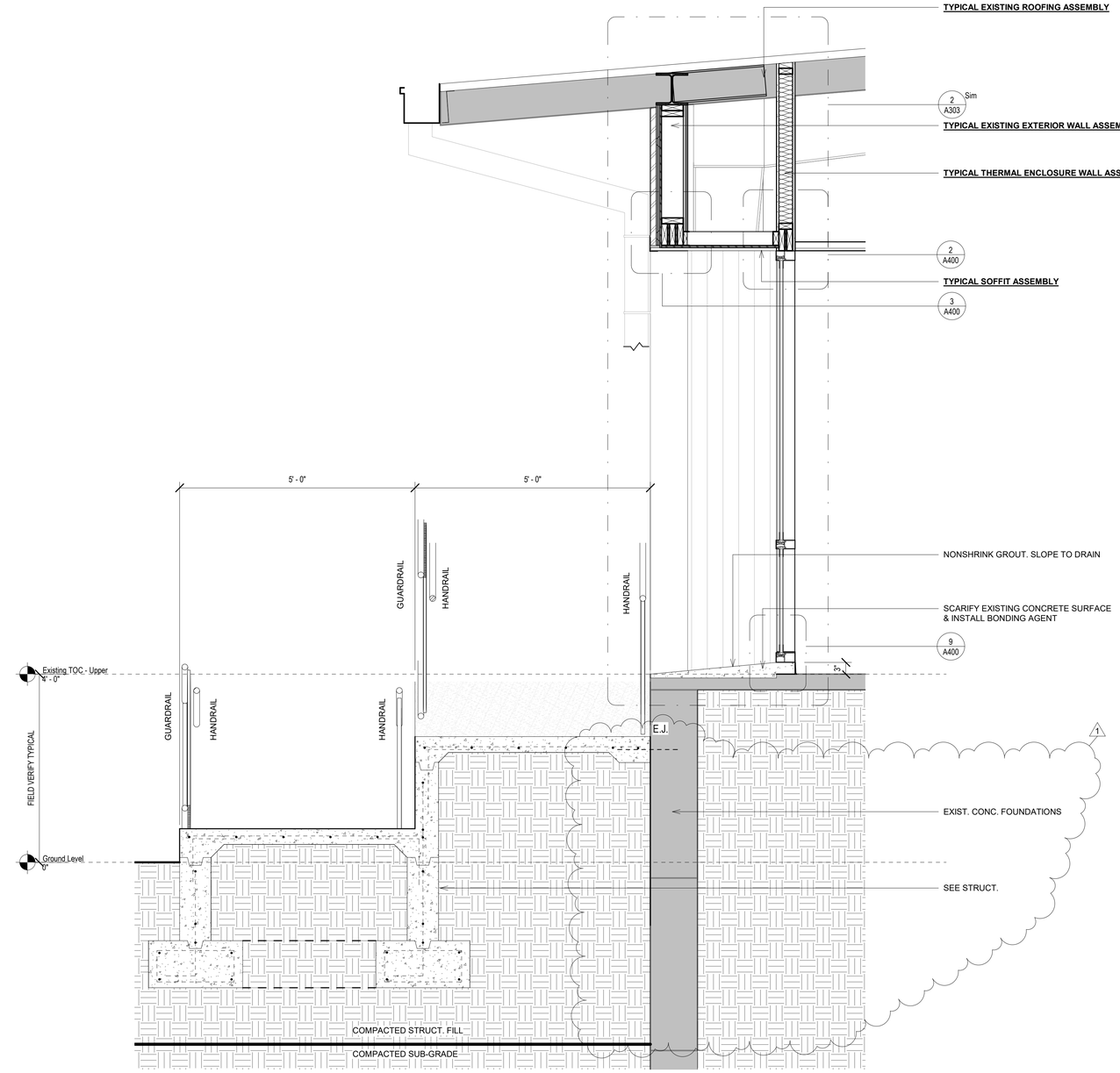
A300
WALL SECTIONS



1 WALL SECTION A
3/4" = 1'-0"



2 WALL SECTION THRU ADA RAMP
3/4" = 1'-0"

GENERAL ASSEMBLY NOTES:
1. SEE SPECIFICATIONS FOR MORE DETAILED REQUIREMENTSOF EA. ASSEMBLY ITEM, TYP.
2. COORD. FRAMING W/ STRUCT. DWGS.
3. COORD. SHEATHING W/ STRUCT. DWGS. TAPE ALL JOINTS & SEAL ALL PENETRATIONS.
4. COORD. MASONRY REINFORCING W/ STRUCT. DWGS.
5. SEE FINISH SCHED. FOR INTERIOR FINISH MATERIALS

ROOF ASSEMBLIES:

TYP. EXISTING ROOFING ASSEMBLY:
- EXISTING MTL. ROOFING PANELS W/ COATING TO REMAIN.
- EXISTING CONT. BATT INSUL. W/ VAPOR BARRIER. PATCH AS REQUIRED TO MAINTAIN CONTINUITY IN THERMAL/MOISTURE BARRIER.
- EXISTING STEEL PURLINS TO REMAIN.

WALLS ASSEMBLIES:

TYP. EXISTING EXTERIOR WALL ASSEMBLY:
- EXISTING METAL WALL PANEL SYS. TO REMAIN
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TYP. METAL WALL PANELING ON WD. STUD FRAMING EXTERIOR WALL ASSEMBLY:
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- 2X6 WOOD STUD FRAMING @ 16" O.C. MAX. TYPICAL. ANCHOR TO EXISTING STRUCT. TYP.
- 5/8" GYP. BD. (SEE FINISH SCHEDULE) GYP. BD. NOT REQUIRED IN CONCEALED LOCATIONS.
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WBA ARCHITECTURE

BLM OFFICE RENOVATIONS

3405 Hwy. 80 E
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12.08.21

WBA # 21-069

REVISIONS

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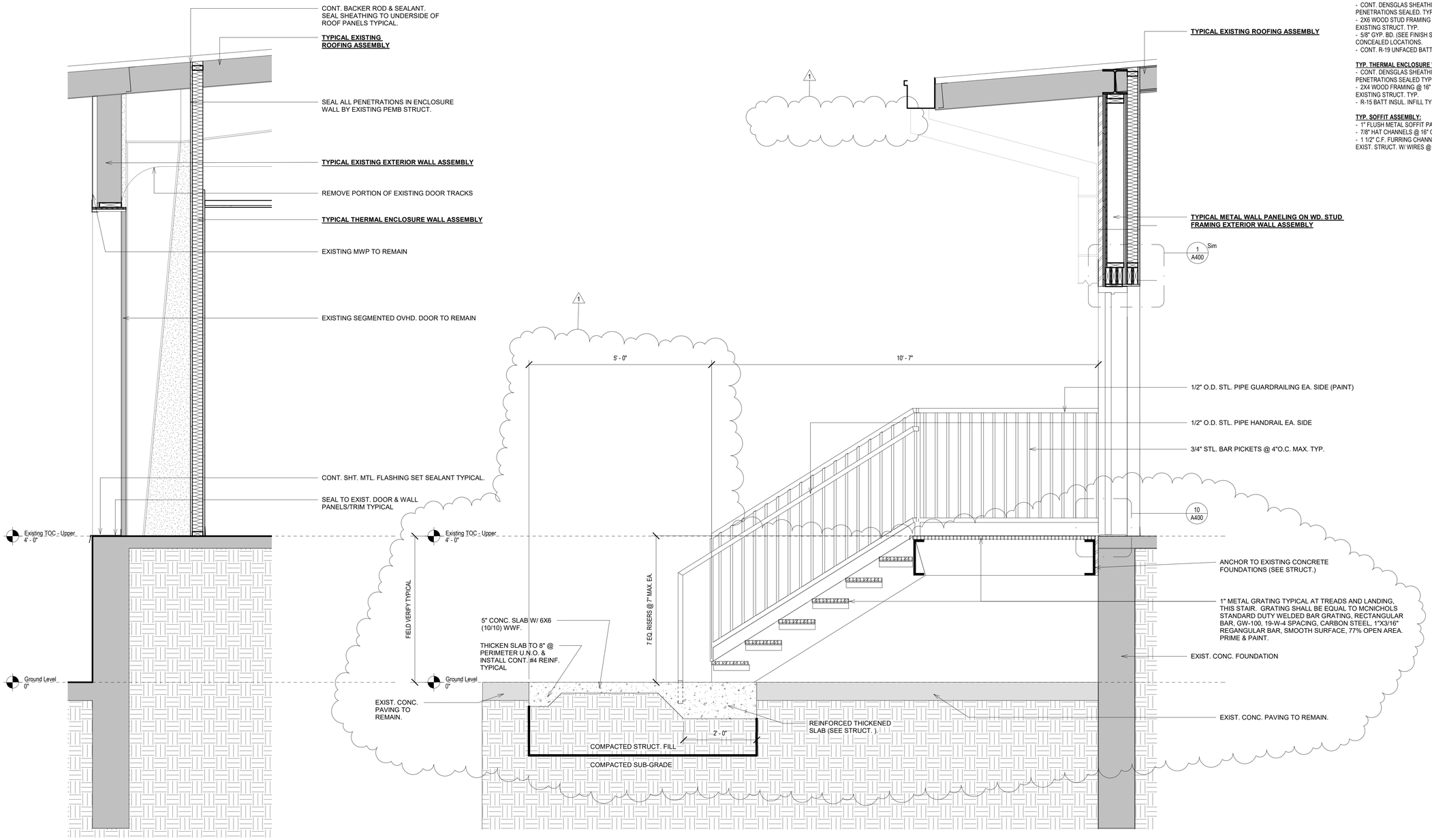
1	Addendum No. 1	01/10/22

A301
WALL SECTIONS



2 WALL SECTION I
3/4" = 1'-0"

3 WALL SECTION J
3/4" = 1'-0"

GENERAL ASSEMBLY NOTES:
1. SEE SPECIFICATIONS FOR MORE DETAILED REQUIREMENTSOF EA. ASSEMBLY ITEM, TYP.
2. COORD. FRAMING W/ STRUCT. DWGS.
3. COORD. SHEATHING W/ STRUCT. DWGS. TAPE ALL JOINTS & SEAL ALL PENETRATIONS.
4. COORD. MASONRY REINFORCING W/ STRUCT. DWGS.
5. SEE FINISH SCHED. FOR INTERIOR FINISH MATERIALS

ROOF ASSEMBLIES:

TYP. EXISTING ROOFING ASSEMBLY:
- EXISTING MTL. ROOFING PANELS W/ COATING TO REMAIN.
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- EXISTING STEEL PURLINS TO REMAIN.

WALLS ASSEMBLIES:

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TYP. METAL WALL PANELING ON WD. STUD FRAMING EXTERIOR WALL ASSEMBLY:
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- CONT. DENSGLAS SHEATHING W/ ALL JOINTS TAPED. ALL PENETRATIONS SEALED. TYP.
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- 2X4 WOOD FRAMING @ 16" O.C. MAX. TYP. ANCHOR AND BRACE TO EXISTING STRUCT. TYP.
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WBA ARCHITECTURE

BLM OFFICE RENOVATIONS

3405 Hwy. 80 E
Pearl, MS

REGISTERED ARCHITECT
JAMES RICHMOND WIER, JR.
#7446
STATE OF MISSISSIPPI

BIDDING DOCUMENTS
12.08.21

WBA # 21-069

REVISIONS

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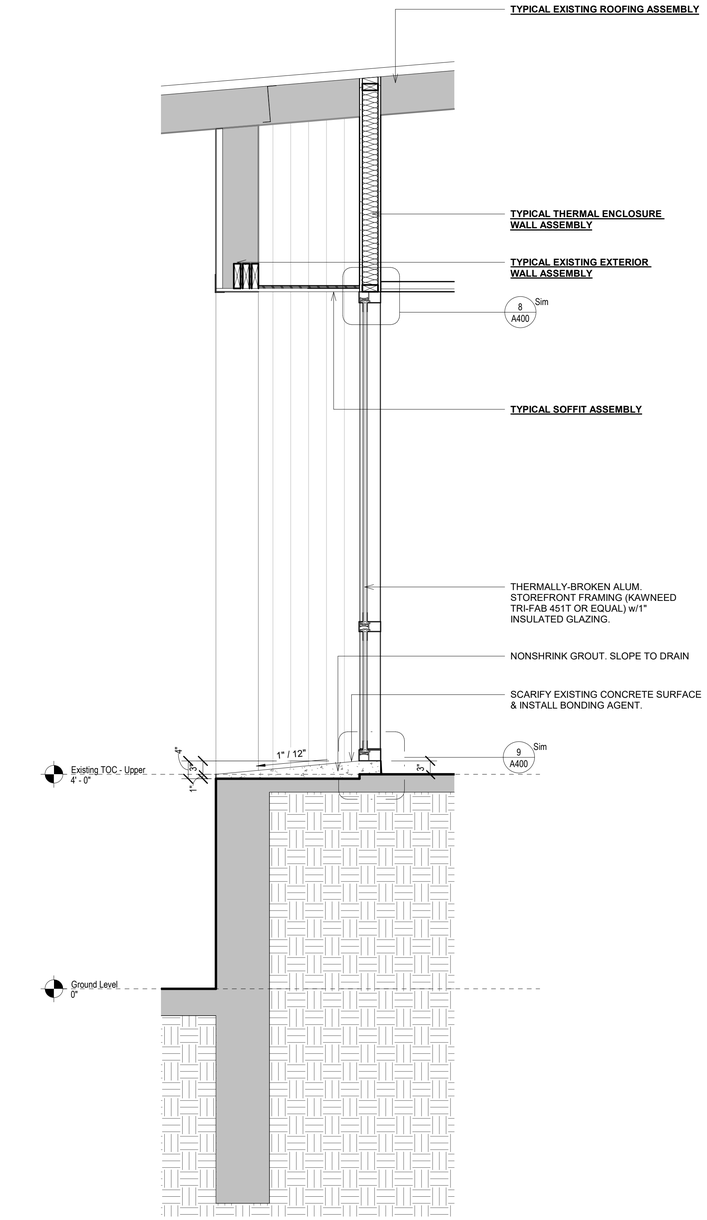
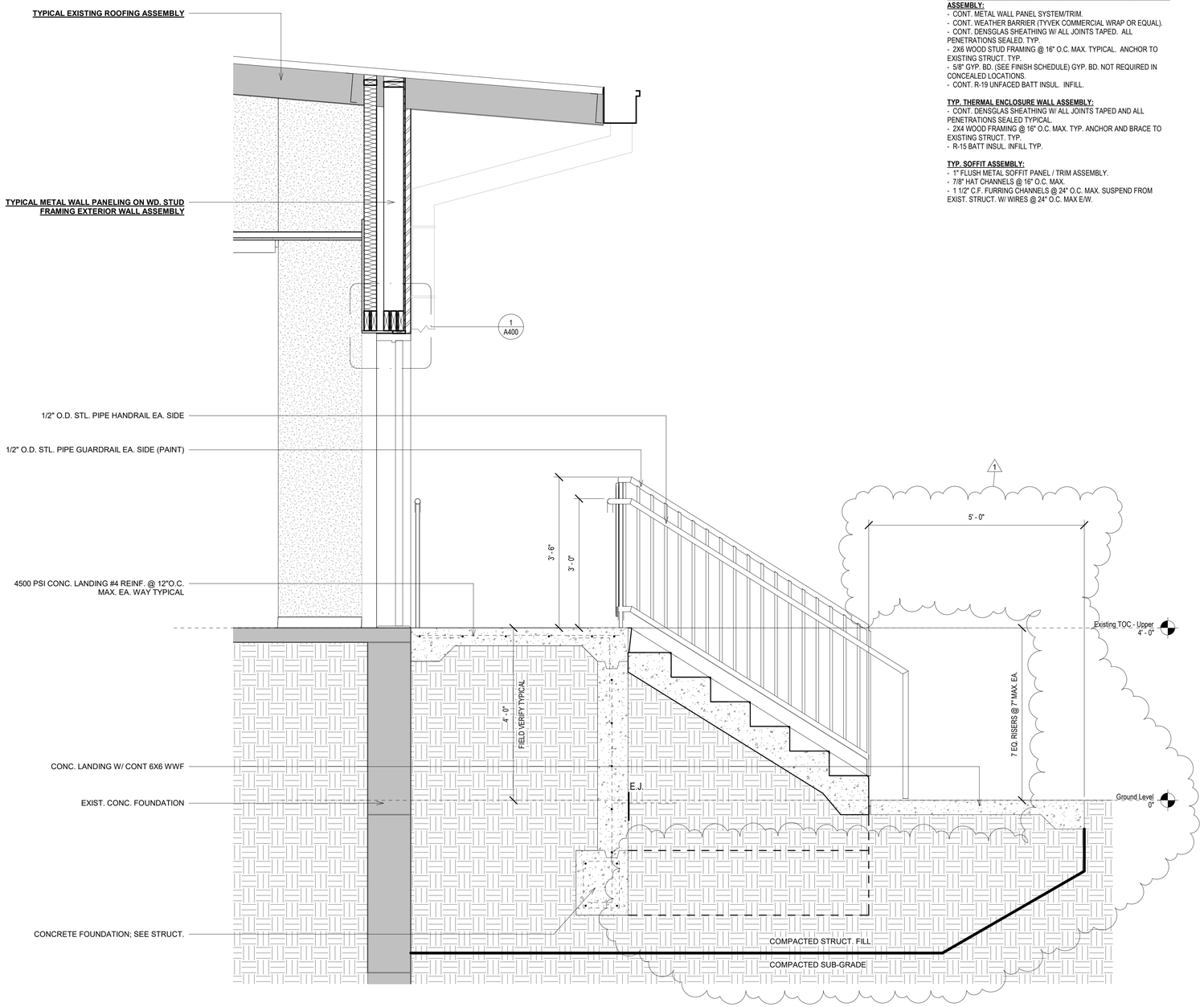
1	Addendum No. 1	01/10/22

A302
WALL SECTIONS



2 WALL SECTION H
3/4" = 1'-0"



3 WALL SECTION THRU ENTRY STAIR
3/4" = 1'-0"

GENERAL ASSEMBLY NOTES:
1. SEE SPECIFICATIONS FOR MORE DETAILED REQUIREMENTSOF EA. ASSEMBLY ITEM, TYP.
2. COORD. FRAMING W/ STRUCT. DWGS.
3. COORD. SHEATHING W/ STRUCT. DWGS. TAPE ALL JOINTS & SEAL ALL PENETRATIONS.
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ROOF ASSEMBLIES:

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- EXISTING STEEL PURLINS TO REMAIN.

WALLS ASSEMBLIES:

TYP. EXISTING EXTERIOR WALL ASSEMBLY:
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TYP. METAL WALL PANELING ON WD. STUD FRAMING EXTERIOR WALL ASSEMBLY:
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- CONT. WEATHER BARRIER (TYVEK COMMERCIAL WRAP OR EQUAL).
- CONT. DENSGLAS SHEATHING W/ ALL JOINTS TAPED. ALL PENETRATIONS SEALED. TYP.
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- 5/8" GYP. BD. (SEE FINISH SCHEDULE) GYP. BD. NOT REQUIRED IN CONCEALED LOCATIONS.
- CONT. R-19 UNFACED BATT INSUL. INFILL.

TYP. THERMAL ENCLOSURE WALL ASSEMBLY:
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- 1 1/2" C.F. FURRING CHANNELS @ 24" O.C. MAX. SUSPEND FROM EXIST. STRUCT. W/ WIRES @ 24" O.C. MAX E/W.

WBA ARCHITECTURE

BLM OFFICE RENOVATIONS

3405 Hwy. 80 E
Pearl, MS

REGISTERED ARCHITECT
JAMES RICHMOND WIER, JR.
#9446
STATE OF MISSISSIPPI

BIDDING DOCUMENTS
12.08.21

WBA # 21-069

REVISIONS

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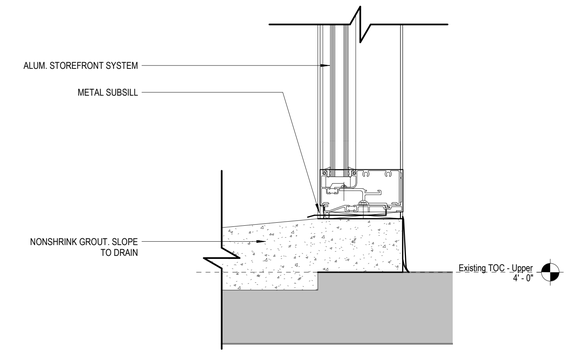
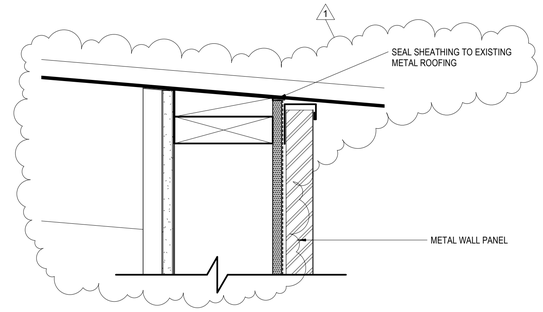
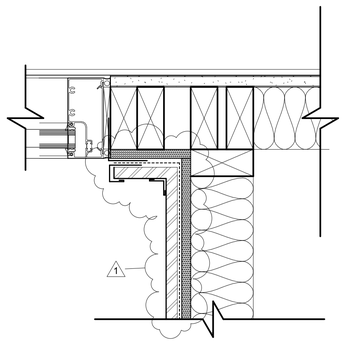
A303
WALL SECTIONS



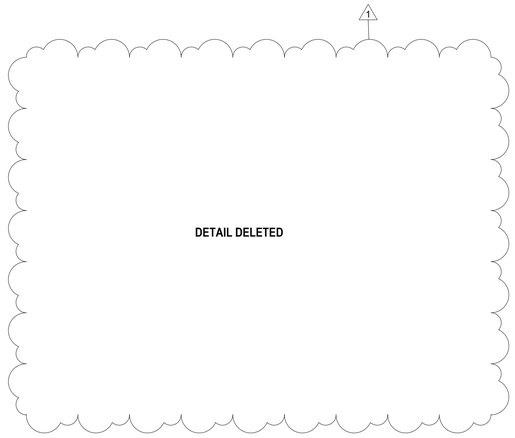
9 NEW STOREFRONT BASE
3" = 1'-0"

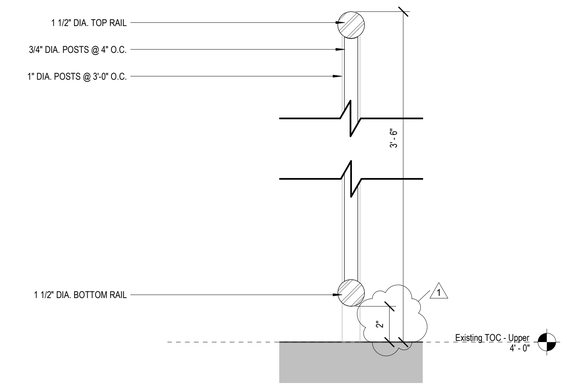


5 NEW METAL WALL PANEL @ EXISTING ROOF
3" = 1'-0"

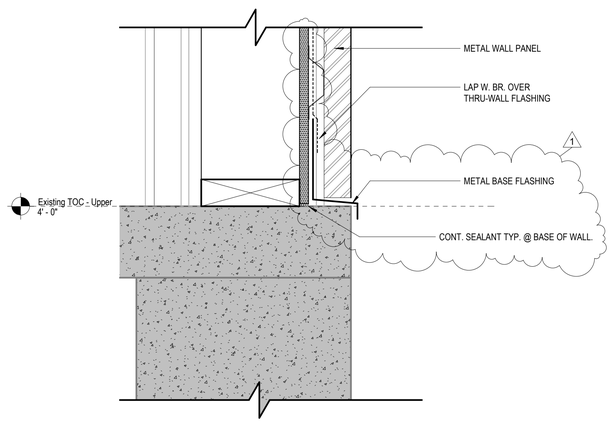


11 STOREFRONT JAMB
3" = 1'-0"

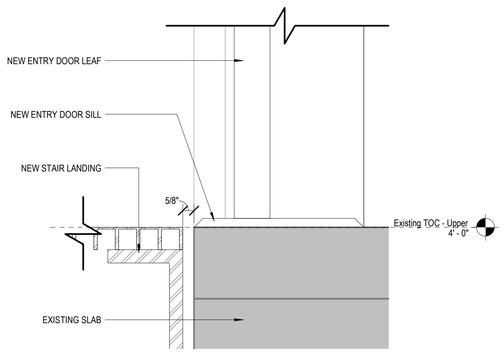




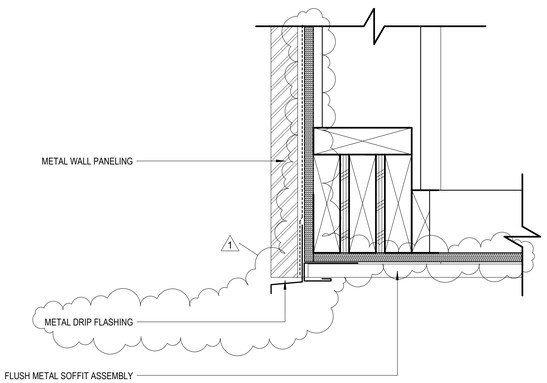
6 RAIL SECTION DETAIL
3" = 1'-0"



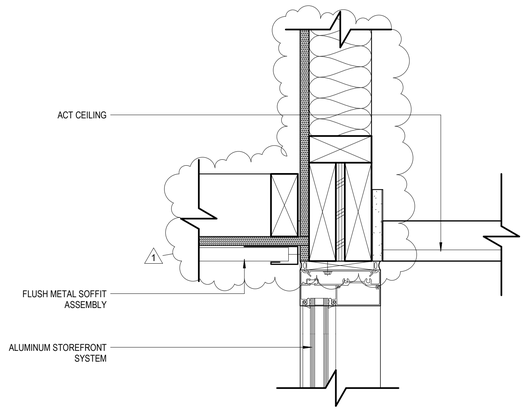
4 NEW METAL WALL PANEL @ EXISTING CONCRETE FOUNDATION
3" = 1'-0"



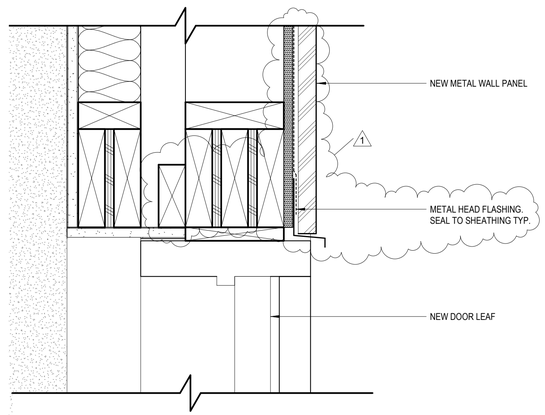
10 NEW EXTERIOR STAIR LANDING TO EXISTING SLAB
3" = 1'-0"



3 METAL WALL PANEL TO METAL SOFFIT TRANSITION
3" = 1'-0"



2 HEAD @ NEW STOREFRONT
3" = 1'-0"



1 HEAD @ NEW ENTRY DOOR
3" = 1'-0"

WBA ARCHITECTURE

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3405 Hwy. 80 E
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#4446
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REVISIONS

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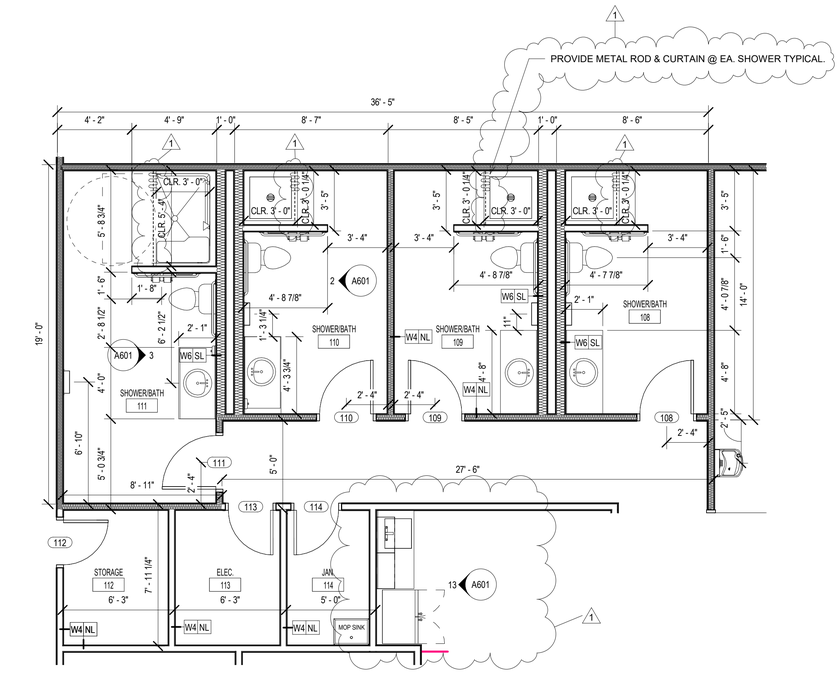
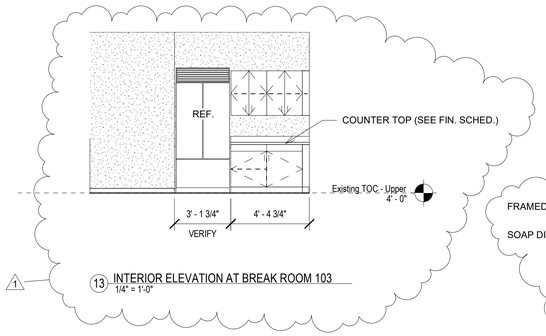
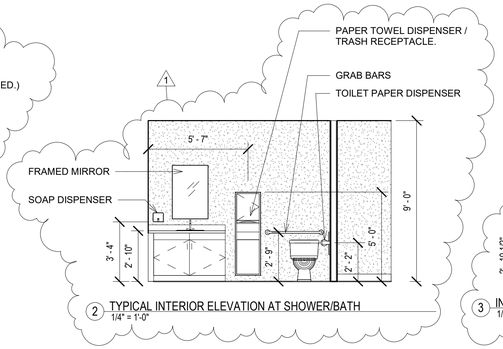
A400
DETAILS



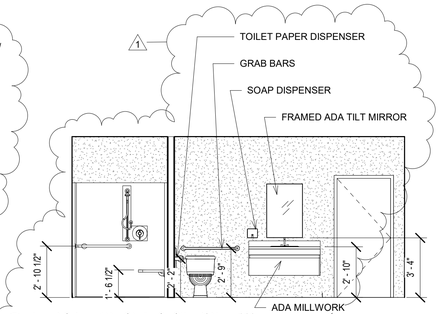
1 ENLARGED BATHROOM PLAN VIEW
1/4" = 1'-0"



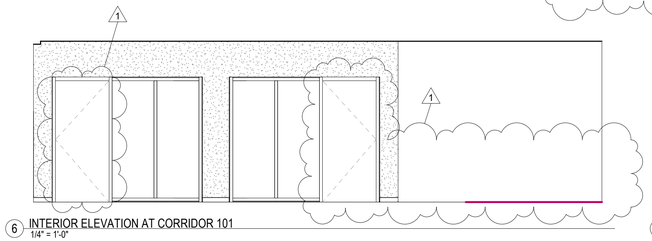
13 INTERIOR ELEVATION AT BREAK ROOM 103
1/4" = 1'-0"



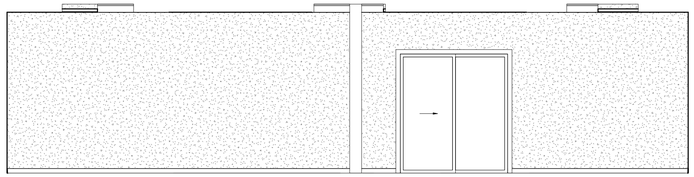
2 TYPICAL INTERIOR ELEVATION AT SHOWER/BATH
1/4" = 1'-0"



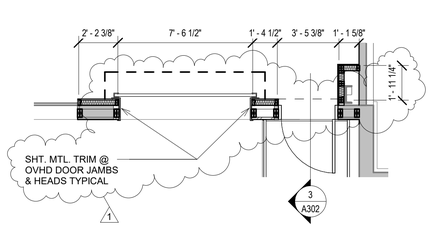
3 INTERIOR ELEVATION AT SHOWER/BATH 111
1/4" = 1'-0"



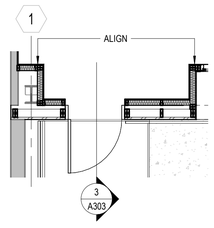
6 INTERIOR ELEVATION AT CORRIDOR 101
1/4" = 1'-0"



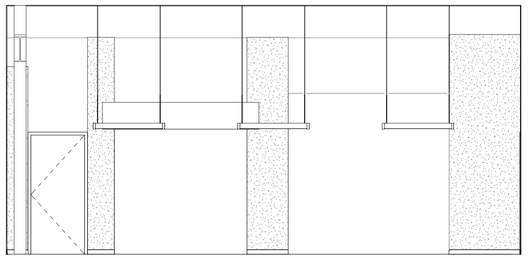
4 INTERIOR ELEVATION AT WORKOUT 106
1/4" = 1'-0"



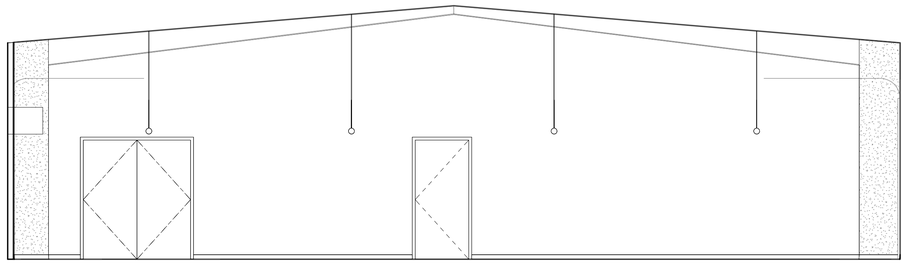
11 SE DOOR
1/4" = 1'-0"



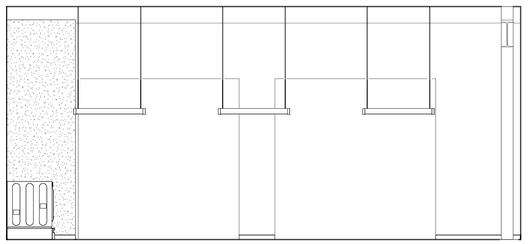
12 SW DOOR
1/4" = 1'-0"



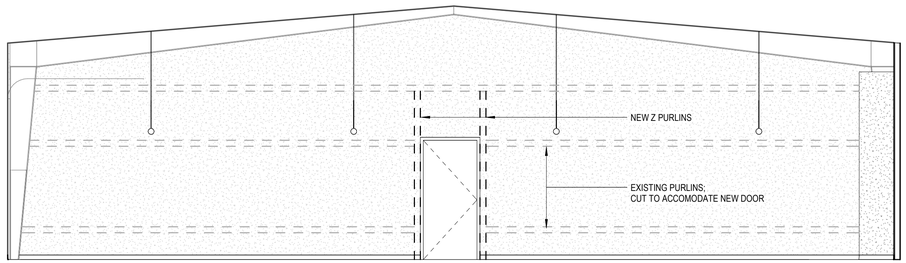
8 WEST INTERIOR ELEVATION AT LOCKERS/CACHE 105
1/4" = 1'-0"



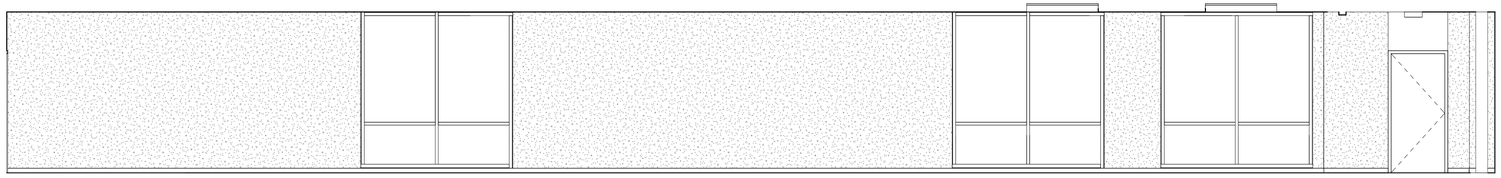
7 NORTH INTERIOR ELEVATION AT LOCKERS/CACHE 105
1/4" = 1'-0"



10 EAST INTERIOR ELEVATION AT LOCKERS/CACHE 105
1/4" = 1'-0"



9 SOUTH INTERIOR ELEVATION AT LOCKERS/CACHE 105
1/4" = 1'-0"



5 INTERIOR ELEVATION AT TRAINING 100
1/4" = 1'-0"

WBA ARCHITECTURE

BLM OFFICE RENOVATIONS

3405 Hwy. 80 E
Pearl, MS

REGISTERED ARCHITECT
JAMES RICHMOND WIER, Jr.
#446
STATE OF MISSISSIPPI

BIDDING DOCUMENTS
12.08.21

WBA # 21-069

REVISIONS

NO.	DESCRIPTION	DATE
1	Addendum No. 1	01/10/22

A601
INTERIOR ELEVATIONS

SELF-CONTAINED PACKAGED UNIT SCHEDULE

MARK	AIRFLOW DATA				COOLING CAPACITY (ALL VALUES LISTED ARE NET CAPACITIES)										HEATING CAPACITY (REHEAT POSITION)						ELECTRICAL DATA						WEIGHT (LBS)	BASIS OF DESIGN	FEATURES/ACCESSORIES	MARK
	SUPPLY AIR		OUTSIDE AIR C.F.M.		DESIGN CONDITIONS						GENERAL				PRIMARY	SECONDARY						SUPPLY FAN		EXHAUST						
	TOTAL CFM	E.S.P. IN. W.G.	OCCUPIED MIN.	UNOCCUPIED MIN.	O.A. TEMP. °F D.B.	O.A. TEMP. °F W.B.	COIL E.A.T. °F D.B.	COIL E.A.T. °F W.B.	COIL L.A.T. °F D.B.	COIL L.A.T. °F W.B.	TOTAL MBH	SENS. MBH	MIN. NO. OF STAGES	MIN. E.E.R.	HOT GAS REHEAT COIL CAPACITY (MBH)	FUEL	MAX. INPUT MBH	MAX. OUTPUT MBH	MIN. NO. OF STAGES	MIN. A.F.U.E.	SERVICE	HP	DRIVE TYPE	FAN HP	MCA	MOCP			
AC-01	2,100	1.00	250	0	95.0	77.0	80.0	67.0	57.0	56.0	68.2	44.0	2	12.6	31.8	N. GAS	120.0	96.0	1	80	240V.,3ph	1	BELT	0.87	31.0	45	GROUND	TRANE MODEL YHC072	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12	AC-01
AC-02	2,625	1.00	300	0	95.0	77.0	80.0	67.0	57.0	57.0	86.1	62.3	2	12.6	70.2	N. GAS	150.0	120.0	2	80	240V.,3ph	2.75	BELT	0.87	42.0	50	GROUND	TRANE MODEL YHC092	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12	AC-02

COMPARABLE PRODUCTS:
TRANE, CARRIER, YORK, DAIKIN OR APPROVED

NOTES:

1. ALL RATINGS ARE AT SPECIFIED DESIGN DAY, CFM AND EXTERNAL STATIC PRESSURE CONDITIONS.
2. MINIMUM A.F.U.E. - AS SCHEDULED.
3. FANS SHALL BE EITHER DIRECT DRIVE CENTRIFUGAL MULTI-SPEED MOTOR DESIGN, BELT DRIVE CENTRIFUGAL DESIGN OR DIRECT DRIVE PLENUM FAN DESIGN. ALL SELECTIONS SHALL INCLUDE A MINIMUM 15% SAFETY FACTOR (I.E. NOMINAL BHP/HP SHALL BE MAXIMUM 85% AND/OR DIRECT DRIVE FAN WIDTH UTILIZED SHALL NOT EXCEED 85% OPEN).
4. ALSO DEFINED AS NUMBER OF INDEPENDENT REFRIGERANT CIRCUITS.
5. MINIMUM REHEAT CAPACITY COINCIDENT WITH ONLY LEAD CIRCUIT COOLING SYSTEM ENERGIZED.
6. SEE SPECIFICATIONS FOR CONTROLS INFORMATION.
7. SEE SPECIFICATIONS FOR COORDINATION OF SMOKE DETECTORS.
8. ALL UNITS SHALL UTILIZE R-410A REFRIGERANT.
9. FOR UNITS WITH VARIABLE SPEED DRIVES, PROVIDE SUBMITTAL DATA FOR BOTH THE OPERATING AND MAXIMUM TOTAL STATIC PRESSURE AT DESIGN SUPPLY CFM (UTILIZING MAXIMUM BHP AVAILABLE IN MOTOR). BELTS/PULLEYS TO BE PROVIDED BASED UPON MAXIMUM TOTAL STATIC PRESSURE.

FEATURES/ACCESSORIES:

1. EVAPORATOR LOW LIMIT TEMPERATURE AND TIME DELAY AUTOMATIC RESTART CONTROLS FOR EACH CIRCUIT.
2. HEAD PRESSURE CONTROL KIT.
3. SINGLE POINT POWER CONNECTION WITH INTEGRAL DISCONNECT.
4. HINGED ACCESS DOORS, WEATHERPROOF GASKETED SEALS AND QUARTER TURN LATCHES ON COMPRESSOR, EVAPORATOR FAN, CONTROLS AND AIR FILTER SECTIONS.
5. PHASE LOSS/PHASE REVERSAL, OVER/UNDER VOLTAGE AND BROWN OUT ELECTRICAL PROTECTION ON ENTIRE UNIT.
6. HEAVY DUTY CONDENSER COIL HAIL GUARDS.
7. LOW AMBIENT CONTROLS DOWN TO 0°F.
8. 2-POSITION CONTROL HOT GAS REHEAT COIL.
9. PROVIDE WITH NEEDLE POINT IONIZATION DEVICES PER SCHEDULE
10. FULL ECONOMIZER WITH DIFFERENTIAL ENTHALPY BASED CONTROLS AND POWERED RELIEF FAN.
11. HORIZONTAL DUCT CONNECTIONS OR SOLID BOTTOM HORIZONTAL DISCHARGE CURB. SEE DETAIL.
12. DUCT MOUNTED SUPPLY AND RETURN SMOKE DETECTORS WIRED TO SHUT-DOWN UNIT UPON DETECTION OF PRODUCTS OF COMBUSTION

DUCTLESS SPLIT SYSTEM (INDOOR SECTION) SCHEDULE

MARK	TYPE	TOTAL CFM	HEATING CAPACITY			COOLING CAPACITY			ELECTRICAL SERVICE	BASIS OF DESIGN	FEATURES/ ACCESSORIES	MATCHED TO
			INDOOR D.B., °F	OUTDOOR D.B., °F	TOT. REV. CYCLE MBH	EAT (°F) D.B.	EAT (°F) W.B.	TOTAL MBH				
DSS-01	WALL	450	70	47	13.6	80	67	12.0	240V.,1ph	LG MODEL LSN120HSV5	1, 2, 3	DCU-01
DSS-02	WALL	450	70	47	13.6	80	67	12.0	240V.,1ph	LG MODEL LSN120HSV5	1, 2, 3	DCU-02

*BASED ON 47 °F D.B. OUTSIDE AND 70 °F D.B. INDOOR ENTERING COIL TEMPERATURE

COMPARABLE PRODUCTS:
MITSUBISHI, DAIKIN, LG

FEATURES/ACCESSORIES:

1. PROVIDE WITH HARD WIRED WALL MOUNTED THERMOSTAT.
2. PROVIDE WITH NEEDLE POINT IONIZATION DEVICES PER SCHEDULE
3. MANUFACTURER'S INTEGRAL CONDENSATE PUMP.

DUCTLESS SPLIT SYSTEM (OUTDOOR SECTION) SCHEDULE

MARK	COOLING CAPACITY			HEATING CAPACITY		MAXIMUM REFRIGERANT PIPE LENGTH (FT.)	ELECTRICAL SERVICE	BASIS OF DESIGN	MATCHED TO
	OUTDOOR D.B., °F	TOTAL MBH	MIN. S.E.E.R.	TOTAL REVERSE CYCLE, MBH*	HSPF				
DCU-01	95	12.0	22.7	13.6	11.4	41	240V.,1ph	LG MODEL LSU120HSV5	DSS-01
DCU-02	95	12.0	22.7	13.6	11.4	41	240V.,1ph	LG MODEL LSU120HSV5	DSS-02

*BASED ON 47 °F D.B. OUTSIDE AND 70 °F D.B. INDOOR ENTERING COIL TEMPERATURE

COMPARABLE PRODUCTS:
MITSUBISHI, DAIKIN, LG

NOTES:

1. REFRIGERANT PIPE SIZE SHALL BE AS PER MANUFACTURER'S RECOMMENDATION TO PROVIDE SCHEDULED MINIMUM COOLING CAPACITY AND MAXIMUM EQUIPMENT LIFE.
2. PROVIDE LOW AMBIENT CONTROLS/CAPABILITY.
3. ALL UNITS TO BE PROVIDED WITH HIGH/LOW PRESSURE SWITCHES, HARD SHUTOFF KIT, LIQUID LINE FILTER DRYER AND WARRANTY AS SPECIFIED.
4. SEE SPECIFICATIONS FOR WARRANTY INFORMATION.
5. PROVIDE WITH INVERTER DUTY OR VARIABLE SPEED COMPRESSOR.

NEEDLEPOINT BI-POLAR IONIZATION DEVICES SCHEDULE

EQUIPMENT SERVED	DEVICE MOUNTING LOCATION	BASIS OF DESIGN	FEATURES/ ACCESSORIES
PACKAGED UNITS (ROOFTOP, GROUND MOUNTED, ETC.)	IN UNIT DOWNSTREAM OF FILTERS	GLOBAL PLASMA MODEL GPS-FC-3-BAS	1, 2, 3, 4, 5
DUCTLESS INDOOR HEAT PUMP UNITS	IN UNIT DOWNSTREAM OF FILTERS	GLOBAL PLASMA MODEL iRIB	1, 2, 3, 5

COMPARABLE PRODUCTS:
PLASMA AIR, BIOCLIMATIC

FEATURES/ACCESSORIES:

1. UL 2998 AND UL 867 COMPLIANT
2. 24 VAC POWER SUPPLY VOLTAGE.
3. CONNECT TO UNIT CONTROL POWER AS REQUIRED.
4. MULTIPLE UNITS MAY BE REQUIRED BASED UPON AIRFLOW OF EQUIPMENT BEING SERVED. COORDINATE WITH INDIVIDUAL UNIT AIRFLOW.
5. PROVIDE HANDHELD ELECTRICAL TESTING DEVICE WITH BOTH VISIBLE AND AUDIBLE INDICATION (ONE PER PROJECT TO BE TURNED OVER TO OWNER).

FAN SCHEDULE

MARK	TYPE [1]	CONTROL SEQ. [2]	OPERATING CFM	S.P. in W.G.	R.P.M.	MAX. SONES	MOTOR DATA H.P.	MOTOR DATA B.H.P.	MOTOR DATA WATTS	ELEC. SERVICE	DRIVE	BASIS OF DESIGN	FEATURES/ACCESSORIES
EF-01	A	A	75	0.375	768	1.0	-	-	80	120V.,1ph	DIRECT	GREENHECK MODEL SP-B110	1, 2, 3, 4, 5, 6, 9
EF-02	A	A	75	0.375	768	1.0	-	-	80	120V.,1ph	DIRECT	GREENHECK MODEL SP-B110	1, 2, 3, 4, 5, 6, 9
EF-03	A	A	75	0.375	768	1.0	-	-	80	120V.,1ph	DIRECT	GREENHECK MODEL SP-B110	1, 2, 3, 4, 5, 6, 9
EF-04	A	A	75	0.375	768	1.0	-	-	80	120V.,1ph	DIRECT	GREENHECK MODEL SP-B110	1, 2, 3, 4, 5, 6, 9
EF-05	A	A	75	0.375	768	1.0	-	-	80	120V.,1ph	DIRECT	GREENHECK MODEL SP-B110	1, 2, 3, 4, 5, 6, 9
EF-06	B	B	3,500	0.375	582	10.0	1/2	0.47	-	120V.,1ph	BELT	GREENHECK MODEL GB-220	1, 2, 7, 8
EF-07	B	C	3,500	0.375	582	10.0	1/2	0.47	-	120V.,1ph	BELT	GREENHECK MODEL GB-220	1, 2, 8
EF-08	B	D	150	0.375	1,513	4.1	1/30	0.02	-	120V.,1ph	DIRECT	GREENHECK MODEL G-070-D	1, 2, 8

COMPARABLE PRODUCTS:
GREENHECK, COOK, PENN-BARRY

[1] TYPE - SEE DETAILS FOR MORE INFORMATION:

A. CEILING CABINET TYPE
B. ROOF MOUNTED DOWNBLAST

[2] CONTROL SEQUENCE:

A. EXHAUST FAN SHALL BE CONTROLLED BY WALL MOUNTED MANUAL 0-60 MINUTE ROTARY TIMER MOUNTED ADJACENT TO LIGHT SWITCH IN SAME ROOM AS FAN.
B. EXHAUST FAN SHALL BE CONTROLLED BY MOTOR STARTER AND NOXIOUS GAS SENSOR(S). FAN OPERATION SHALL BE INTERLOCKED TO OPEN MOTORIZED DAMPERS IN WALL LOUVERS (SEE PLAN) WHEN ENERGIZED. FAN SHALL BE ENERGIZED BY ANY OF THE FOLLOWING:
   A. MOTOR STARTER IN THE "ON" POSITION
   B. NOXIOUS GAS SENSOR RISES ABOVE ACCEPTABLE LEVELS. SETPOINT SHALL INCLUDE ADJUSTABLE DEADBAND TO PREVENT FAN SHORT-CYCLING
   C. DIGITAL 0-60 MIN. TIMER (ADJ.)
C. EXHAUST FAN SHALL BE CONTROLLED BY WALL MOUNTED TOGGLE SWITCH. SEE PLANS FOR LOCATION.
D. EXHAUST FAN CONTROLLED BY MOTOR STARTER. SEE PLANS FOR LOCATION.

[3] FEATURES/ACCESSORIES:

PROVIDE THE FOLLOWING MANUFACTURER'S ACCESSORIES

1. UL AND AMCA RATING
2. FACTORY MOUNTED & WIRED DISCONNECT
3. BACKDRAFT DAMPER
4. WALL MOUNTED MOTION DETECTOR
5. FACTORY MOUNTED & WIRED SOLID STATE SPEED CONTROLLER
6. ALUMINUM GRILLE
7. SPARK RESISTANT B (AMCA 99-0401)
8. ALUMINUM BACKDRAFT DAMPER (GREENHECK MODEL ES-10)
9. 0-60 MINUTE ROTARY TIMER

1

UNIT HEATER SCHEDULE

MARK	TYPE	CFM	FUEL	ELECTRICAL DATA SERVICE	ELECTRICAL DATA FAN HP	ELECTRICAL DATA HTG. ELEMENT KW	BASIS OF DESIGN	NOTES
UH-01	HORIZ.	800	ELEC.	240V.,3ph	1/4	10.0	HAZLOC MODEL XEU1-12-100	1, 2, 3
UH-02	HORIZ.	800	ELEC.	240V.,3ph	1/4	10.0	HAZLOC MODEL XEU1-12-100	1, 2, 3
UH-03	HORIZ.	625	N. GAS	120V.,1ph	1/50	-	REZNOR MODEL UDZ045	1, 2, 4
UH-04	HORIZ.	625	N. GAS	120V.,1ph	1/50	-	REZNOR MODEL UDZ045	1, 2, 4

NOTES:

1. PROVIDE WITH ELECTRIC THERMOSTAT WITH 24VAC CONTROL VOLTAGE
2. PROVIDE WITH DISCONNECT SWITCH.
3. PROVIDE WITH PILOT LIGHT INDICATING HEAT "ON".
4. SEPARATED COMBUSTION.

WBA ARCHITECTURE

BLM OFFICE RENOVATIONS

3405 Hwy. 80 E
Pearl, MS

KEVIN WILLIAM LEE — REGISTERED PROFESSIONAL ENGINEER — 15585 — 12/8/12 — STATE OF MISSISSIPPI

BIDDING DOCUMENTS
12.08.21

WBA # 21-069

REVISIONS

NO.	DESCRIPTION	DATE
1	ADD #01	1/10/22

GSK MECHANICAL
Consulting Engineering
201 Park Court - Suite A | Ridgeland, MS 39157
P: 601.605.2930 F: 844.493.3111
www.gskmech.com
GSK#:116-048

M201
HVAC
Schedules

ELECTRICAL LEGEND

GENERAL NOTES

1. ALL EQUIPMENT AND DEVICES ARE TO BE FLUSH MOUNTED UNLESS OTHERWISE NOTED.
2. DEVICES NOTED AS "GFI" SHALL BE GROUND FAULT CIRCUIT INTERRUPTING DEVICES.
3. DEVICES NOTED AS "WP" SHALL BE WEATHERPROOF WHILE-IN-USE.
4. DEVICES NOTED AS "DL" SHALL BE RATED FOR DAMP LOCATION.
5. DEVICES NOTED AS "NL" SHALL BE NIGHT LIGHTS. PROVIDE UNSWITCHED POWER TO FIXTURE.
6. DEVICES NOTED AS "WG" SHALL BE PROVIDED AND INSTALLED WITH A WIRE GUARD.
7. DEVICES NOTED AS "TR" SHALL BE TAMPER RESISTANT.
8. PROVIDE UNSWITCHED POWER TO EMERGENCY BATTERY PACKS.
9. "W/E" INDICATES DEVICE/DISCONNECT PROVIDED WITH THE EQUIPMENT BY OTHERS.

LUMINAIRES (See Light Fixture Schedule)

NOTE: THE NUMBER INSIDE THE CIRCLE IS THE CIRCUIT NUMBER. THE LETTER BESIDE THE SYMBOL IS THE FIXTURE TYPE DESCRIBED IN THE LIGHT FIXTURE SCHEDULE.

- 2'X2' RECESSED FIXTURE.
- 2'X4' RECESSED FIXTURE.
- SURFACE MOUNTED OR SUSPENDED FIXTURE.
- CEILING MOUNTED EXIT SIGN. PROVIDE CHEVRONS AS INDICATED BY ARROWS.
- EXIT SIGN WITH EMERGENCY LIGHTING.
- WALL MOUNTED EXIT SIGN. PROVIDE CHEVRONS AS INDICATED BY ARROWS.
- EMERGENCY LIGHTING.
- WALL MOUNTED FIXTURE.

SWITCHES

- $ SINGLE-POLE, SINGLE-THROW SWITCH. MOUNT CENTERLINE OF BOX AT 45"A.F.F. UNLESS NOTED OTHERWISE.
- 2P$ DOUBLE-POLE, SINGLE-THROW, 30 AMP SWITCH. MOUNT CENTERLINE OF BOX AT 45"A.F.F. UNLESS NOTED OTHERWISE.
- D LED DIMMER EQUAL TO LEVITON #IP710-LFZ MOUNT CENTERLINE OF BOX AT 45"A.F.F. UNLESS NOTED OTHERWISE.
- 3D THREE-WAY LED DIMMER. MOUNT CENTERLINE OF BOX AT 45"A.F.F. UNLESS NOTED OTHERWISE.
- M$ AUTOMATIC WALL SWITCH. SENSORSWITCH #WSD-PDT OR APPROVED EQUAL. MOUNT CENTERLINE OF BOX AT 45" A.F.F. UNLESS NOTED OTHERWISE.
- MD AUTOMATIC WALL SWITCH WITH INTEGRAL 0-10V DIMMER. SENSORSWITCH #WSX-PDT-D-VA OR APPROVED EQUAL. MOUNT CENTERLINE OF BOX AT 45"A.F.F. UNLESS NOTED OTHERWISE.
- (MD1) PASSIVE INFRARED AND ULTRASONIC DUAL TECHNOLOGY OCCUPANCY SENSOR WITH A 12' RADIAL COVERAGE. CEILING MOUNTED. SENSORSWITCH #CM-PDT-9 OR APPROVED EQUAL.
- (MD2) PASSIVE INFRARED AND ULTRASONIC DUAL TECHNOLOGY OCCUPANCY SENSOR WITH A 28' RADIAL COVERAGE. CEILING MOUNTED. SENSORSWITCH #CM-PDT-10 OR APPROVED EQUAL.
- PP POWER PACK MOUNTED ABOVE CEILING. SENSORSWITCH #PP20 OR APPROVED EQUAL.

RECEPTACLES

- ? DUPLEX RECEPTACLE, NEMA 5-20R, MOUNTED 18" A.F.F. TO CENTERLINE OF BOX UNLESS NOTED OTHERWISE.
- ? DOUBLE DUPLEX RECEPTACLE, NEMA 5-20R, ONE COVER PLATE, MOUNTED 18" A.F.F. TO CENTERLINE OF BOX UNLESS NOTED OTHERWISE.
- ? DOUBLE DUPLEX RECEPTACLE, NEMA 5-20R, ONE COVER PLATE, MOUNTED WITH BOTTOM OF BOX 2" ABOVE COUNTER BACKSPLASH. WHERE THERE IS NO BACKSPLASH MOUNT 6" ABOVE COUNTER. WHERE RECEPTACLE IS SHOWN IN AN AREA WITH NO COUNTER, MOUNT 45"A.F.F. TO CENTERLINE OF BOX.
- ? DUPLEX RECEPTACLE, NEMA 5-20R, MOUNTED WITH BOTTOM OF BOX 2" ABOVE COUNTER BACKSPLASH. WHERE THERE IS NO BACKSLPASH MOUNT 6" ABOVE COUNTER. WHERE RECEPTACLE IS SHOWN IN AN AREA WITH NO COUNTER, MOUNT 45"A.F.F. TO CENTERLINE OF BOX.
- ? SINGLE RECEPTACLE, NEMA 14-50R. PROVIDE 6' CORD AND MATCHING PLUG WHERE REQUIRED. MOUNTING DETERMINED BY NEC FOR TYPE OF EQUIPMENT BEING CONNECTED.
- ? DF DUPLEX RECEPTACLE, NEMA 5-20R, FOR DRINKING FOUNTAIN FED FROM GFCI BREAKER. MOUNTED IN ACCORDANCE WITH MANUFACTURER'S ROUGH-IN REQUIREMENTS. VERIFY CONNECTION TYPE PRIOR TO BID. RECEPTACLE SHALL BE MOUNTED, CONCEALED BEHIND THE SHROUD OF THE DRINKING FOUNTAIN.
- ? SINGLE RECEPTACLE, NEMA L6-30R, MOUNTED 18" A.F.F. TO CENTERLINE OF BOX UNLESS NOTED OTHERWISE.

ACCESS CONTROL

- CR CARD READER. 3/4"C. STUBBED ABOVE ACCESSIBLE CEILING OR TO NEAREST I.T. ROOM.
- ES ELECTRIC DOOR STRIKE. 3/4"C. STUBBED FROM DOOR FRAME TO ABOVE CEILING.

CONDUIT AND WIRING

- CONDUCTORS IN CONDUIT CONCEALED WITHIN WALL OR CEILING. TIC MARKS INDICATE NUMBER OF CONDUCTORS. THE EQUIPMENT GROUNDING CONDUCTOR IS NOT SHOWN, BUT SHALL BE PROVIDED. SIZE THE EQUIPMENT GROUNDING CONDUCTOR AND THE CONDUIT PER THE NEC. THE ABSENCE OF TIC MARKS SIGNIFIES THAT TWO CONDUCTORS PLUS AN EQUIPMENT GROUNDING CONDUCTOR SHOULD BE PROVIDED. FOR EXAMPLE, THE MARKINGS TO THE LEFT SIGNIFY THAT THREE CONDUCTORS PLUS AN EQUIPMENT GROUNDING CONDUCTOR SHOULD BE PROVIDED.
- 10 THE TEXT INSIDE THE ARC INDICATES THE AWG SIZE OF THE CONDUCTORS THAT SHALL BE RUN IN THE CONDUIT. THE ABSENCE OF TEXT SIGNIFIES THAT THE CONDUCTORS SHOULD BE #12 AWG.
- CIRCUITRY RUN IN STRAIGHT LINE SEGMENTS SIGNIFIES EXPOSED SURFACE-MOUNTED RACEWAY (SEE SPECIFICATIONS).
- CONDUCTORS IN CONDUIT CONCEALED BELOW GRADE OR FLOOR. TIC MARKS INDICATE NUMBER OF CONDUCTORS. THE EQUIPMENT GROUNDING CONDUCTOR IS NOT SHOWN, BUT SHALL BE PROVIDED. SIZE THE EQUIPMENT GROUNDING CONDUCTOR AND THE CONDUIT PER THE NEC. THE ABSENCE OF TIC MARKS SIGNIFIES THAT TWO CONDUCTORS PLUS AN EQUIPMENT GROUNDING CONDUCTOR SHOULD BE PROVIDED. THE MARKINGS TO THE LEFT SIGNIFY THAT THREE CONDUCTORS PLUS AN EQUIPMENT GROUNDING CONDUCTOR SHOULD BE PROVIDED.
- LA-1 HOMERUN TO PANELBOARD. ARC DENOTES CONCEALED CIRCUITRY. TEXT DENOTES PANELBOARD NAME WITH CIRCUIT NUMBER. DEVICES HAVING CIRCUIT NUMBERS LOCATED BESIDE THEM MAY NOT SHOW THE CIRCUIT NUMBERS AT THE HOMERUN ARROWS.
- LA-1 PARTIAL HOMERUN TO PANELBOARD. COMBINE ALL PARTIAL HOMERUNS THAT ARE ON THE SAME CIRCUIT IN A JUNCTION BOX PRIOR TO ENTERING THE PANELBOARD.
- LOW VOLTAGE CONDUCTORS USED FOR MOTION DETECTOR CIRCUITRY. SEE MANUFACTURER'S RECOMMENDATIONS FOR CONDUCTOR REQUIREMENTS.
- 6 CABLE TRAY. NUMBER INDICATES WIDTH OF CABLE TRAY. NO NUMBER INDICATES A DEFAULT WIDTH OF 12"
- CRITICAL BRANCH CONDUCTORS IN CONDUIT CONCEALED WITHIN WALL OR CEILING. TIC MARKS INDICATE NUMBER OF CONDUCTORS. THE EQUIPMENT GROUNDING CONDUCTOR IS NOT SHOWN, BUT SHALL BE PROVIDED. SIZE THE EQUIPMENT GROUNDING CONDUCTOR AND THE CONDUIT PER THE NEC. THE ABSENCE OF TIC MARKS SIGNIFIES THAT TWO CONDUCTORS PLUS AN EQUIPMENT GROUNDING CONDUCTOR SHOULD BE PROVIDED. FOR EXAMPLE, THE MARKINGS TO THE LEFT SIGNIFY THAT TWO #12 AWG CONDUCTORS PLUS AN EQUIPMENT GROUNDING CONDUCTOR SHOULD BE PROVIDED.

VOLTAGE DROP CHART FOR 20A, 1Ø CIRCUITS

Voltage	Circuit Length	Conductor Size (AWG)
120	< 50'	#12
120	> 50'	#10
120	> 90'	#8
120	> 140'	#6
277	< 130'	#12
277	> 130'	#10
277	> 200'	#8
277	> 330'	#6

VOLTAGE DROP CHART NOTES:

1) CIRCUIT SIZES INDICATED ON THE DRAWINGS ARE MINIMUM REQUIREMENTS. REFER TO THIS CHART FOR UPSIZING CONDUCTORS AS NEEDED.

2) DO NOT CONNECT CONDUCTORS LARGER THAN #10 DIRECTLY TO A RECEPTACLE OR A SWITCH. PROVIDE A JUNCTION BOX TO DOWNSIZE THE CONDUCTOR TO #12 AT THE DEVICE.

3) FOR CIRCUITS LONGER THAN THOSE LISTED ABOVE, CONSULT WITH THE ENGINEER FOR CONDUCTOR SIZES.

GEAR

- ??? F-? FUSED DISCONNECT SWITCH. TEXT INDICATES AMPACITY/NUMBER OF POLES/ENCLOSURE TYPE; F-(RATING OF FUSES).
- ??? NON-FUSED DISCONNECT SWITCH. TEXT INDICATES AMPACITY/NUMBER OF POLES/ENCLOSURE TYPE.
- MAGNETIC MOTOR STARTER.
- ??? F-? NEMA SIZE ? COMBINATION FUSED DISCONNECT AND MAGNETIC MOTOR STARTER.
- COMBINATION CIRCUIT BREAKER AND MAGNETIC MOTOR STARTER.
- ? PANELBOARD.

FIRE ALARM SYSTEM

- F MANUAL PULL STATION. MOUNT 48"A.F.F. TO CENTERLINE OF BOX.
- F STROBE. MOUNT 80"A.F.F. TO BOTTOM OF BOX.
- F COMBINATION HORN AND STROBE. MOUNT 80"A.F.F. TO BOTTOM OF BOX.
- SMOKE DETECTOR.
- FACP FIRE ALARM CONTROL PANEL. CIRCUIT BREAKER SHALL BE COLORED RED.
- FAAP FIRE ALARM ANNUNCIATOR PANEL.
- FIRE ALARM HORN AND STROBE MOUNTED ON THE CEILING TO A FLUSH MOUNTED BOX.
- FIRE ALARM STROBE MOUNTED ON THE CEILING TO A FLUSH MOUNTED BOX.

COMMUNICATIONS

- DATA OUTLET MOUNTED 18" A.F.F. TO CENTERLINE OF BOX UNLESS NOTED OTHERWISE.
- TV ? DUPLEX RECEPTACLE, NEMA 5-20R AND A COMBINATION TELEPHONE/DATA OUTLET MOUNTED IN A FLOOR BOX.

LIGHTING FIXTURE SCHEDULE

TYPE	MANUFACTURER	PART NUMBER	LAMPS	MOUNTING	REMARKS
A	LITHONIA	LBL4-4000LM-80CRI-40K-MIN10 GZT-MVOLT	LED, 32.4W 4253 LUMENS	SURFACE	
B	LITHONIA	EPANL-2X2-4800LM-80CRI-40K MIN10-ZT-MVOLT	LED, 45W 4843 LUMENS	RECESSED	
C	LITHONIA	EPANL-2X4-4800LM-80CRI-40K MIN10-ZT-MVOLT	LED, 45W 5119 LUMENS	RECESSED	
D	LITHONIA	TWH LED-10C-1000-40K-T3M MVOLT-PE-DBLXD	LED, 39W 3377 LUMENS	WALL	
DE	LITHONIA	TWH LED-10C-1000-40K-T3M MVOLT-PE-ELCW-DBLXD	LED, 39W 3377 LUMENS	WALL	*WITH 120V EMERGENCY BATTERY PACK.
F	KELVIX	UC22	LED - 12W 610 LUMENS	UNDERCABINET	
G	LITHONIA	LBL4-7200LM-80CRI-40K-MIN10 GZT-MVOLT	LED, 62W 7336 LUMENS	SUSPENDED	
EM	LITHONIA	ELM4	LED	WALL	*WITH 120V EMERGENCY BATTERY PACK.
X	LITHONIA	LQM-S-W-3-R-MVOLT- EL N-SD	LED	UNIVERSAL	*WITH 120V EMERGENCY BATTERY PACK.

1

PANEL: MDP — LOCATION: ELECTRICAL ROOM; VOLT: 240Δ/120V, 3Ø, 4W; BUS: 400A; LUG LOCATION: BOTTOM FEED; MAIN BUS: MAIN LUGS ONLY; MOUNTING: SURFACE; PANELBOARD AIC RATING (A): 22,000

CIRCUIT NO.	BREAKER AMPS	BREAKER POLES	DESCRIPTION	PHASE LOAD (KVA) A	A	B	B	C	C	DESCRIPTION	BREAKER AMPS	BREAKER POLES	CIRCUIT NO.
1	45	3	AC-01	3.6	0.3					UH-01	40	3	2
3	-	-	-			3.6	0.3			-	-	-	4
5	-	-	-					3.6	0.3	-	-	-	6
7	50	3	AC-02	4.7	0.3					UH-02	40	3	8
9	-	-	-			4.7	0.3			-	-	-	10
11	-	-	-					4.7	0.3	-	-	-	12
13	45	3	SPARE	0.0	1.9					DCU-01, DSS-01	20	2	14
15	-	-	-			0.0	1.9			-	-	-	16
17	-	-	-					0.0	1.9	DCU-02, DSS-02	20	2	18
19	30	3	SPARE	0.0	1.9					-	-	-	20
21	-	-	-			0.0	0.0			NO SINGLE PHASE LOAD			22
23	-	-	-					0.0	1.0	WH-01	20	1	24
25	50	3	SPARE	0.0	0.0					SPARE	15	3	26
27	-	-	-			0.0	0.0			-	-	-	28
29	-	-	-					0.0	0.0	-	-	-	30
31	15	3	SPARE	0.0	0.0					SPARE	20	2	32
33	-	-	-			0.0	0.0			-	-	-	34
35	-	-	-					0.0	17.5	PANEL "PA"	225	2	36
37	200	3	EXISTING PANEL "NN1"	0.0	18.3					-	-	-	38
39	-	-	-			0.0	0.0			NO SINGLE PHASE LOAD			40
41	-	-	-					0.0	0.0	SPARE	20	1	42
TOTAL				31.0		10.8		29.4					

PANEL: PA — LOCATION: ELECTRICAL; VOLT: 240/120V, 1Ø, 3W; BUS: 225A; LUG LOCATION: TOP FEED; MAIN BUS: MAIN LUGS ONLY W/FEED THRU LUGS; MOUNTING: SURFACE; PANELBOARD AIC RATING (A): 22,000

CIRCUIT NO.	BREAKER AMPS	BREAKER POLES	DESCRIPTION	PHASE LOAD (KVA) L1	L1	L2	L2	DESCRIPTION	BREAKER AMPS	BREAKER POLES	CIRCUIT NO.
1	20	1	LTS. - CORR. 107, TRAINING 104, CORR. 100	0.9	0.2			REC. - CORRIDOR 100	20	1	2
3	20	1	EF-06			1.2	0.4	REC. - DATA ROOM	20	1	4
5	20	1	LTS. - WORKOUT 106, LOCKERS 105	1.1	0.7			REC. - OFFICE 115, OFFICE 116	20	1	6
7	20	1	LTS. - ELEC. 113, JAN. 114, OFF. 116, SHOWER 108			0.5	0.5	REC. - CORRIDOR 101, TRAINING 104	20	1	8
9	20	1	REC. - DATA ROOM	0.4	0.5			REC. - WORKOUT 106	20	1	10
11	20	1	LTS. - EXTERIOR			0.2	0.7	REC. - TRAINING 104	20	1	12
13	20	1	REC. - BREAK AREA 103	0.2	0.2			REC. - TRAINING 104	20	1	14
15	20	1	REC. - DATA ROOM			0.4	0.5	REC. - WORKOUT 106	20	1	16
17	20	1	REC. - BREAK AREA 103	0.2	0.2			REC. - TRAINING 104	20	1	18
19	20	1	REC. - SHOWER/BATH 111,110			0.4	0.2	REC. - WORK STATIONS 102	20	1	20
21	20	1	REC. - DATA ROOM	0.4	0.5			REC. - WORKOUT 106	20	1	22
23	20	1	REC. - SHOWER/BATH 109, 108			0.4	0.2	REC. - WORK STATIONS 102	20	1	24
25	20	1	REC. - WORKOUT 106	0.5	0.2			REC. - WORK STATIONS 102	20	1	26
27	20	1	REC. - DATA ROOM			0.4	0.5	REC. - WORKOUT 106	20	1	28
29	20	1	REC. - WORKOUT 106	0.5	0.2			REC. - WORK STATIONS 102	20	1	30
31	*20	1	REC. - DRINKING FOUNTAIN			0.5	0.2	REC. - WORK STATIONS 102	20	1	32
33	20	1	REC. - DATA ROOM	0.4	0.0			SPARE	20	1	34
35	20	1	REC. - LOCKERS/CACHE 105			0.7	0.2	REC. - WORK STATIONS 102	20	1	36
37	20	1	REC. - ICE MACHINE	1.4	0.0			REC. - BREAK AREA 103, CORRIDOR 107	20	1	38
39	30	2	REC. - DRYER			1.0	0.4	EXHAUST FANS	20	1	40
41	-	-	-	1.0	0.8			REC. - REFRIGERATOR	20	1	42
43	20	1	WASHER			1.0	1.2	EF-07	20	1	44
45	20	1	UH-03	0.5	2.9			REC. - DATA ROOM	30	2	46
47	20	1	UH-04			0.5	2.9	-	-	-	48
49	20	1	EF-08	0.5	2.9			REC. - DATA ROOM	30	2	50
51	20	1	LTS. - WAREHOUSE			0.6	2.9	-	-	-	52
53	20	1	SPARE	0.0	0.5			FACP	20	1	54
TOTAL				17.5		18.3		* GFCI BREAKER			

1

THE POWER SOURCE PLUS
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FAX (601) 605-4875
TPS PROJ. # 21238

WBA ARCHITECTURE

CHRISTOPHER L. GREEN
REGISTERED
ENGINEER
12/17/21
16773
STATE OF MISSISSIPPI

BLM OFFICE RENOVATIONS

3405 Hwy. 80 E
Pearl, MS

WBA # 21-069

REVISIONS

NO.	DESCRIPTION	DATE
1	ADD #1	1-10-2022

E000
ELECTRICAL LEGEND

THE POWER SOURCE PLLC
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RIDGELAND, MS 39157
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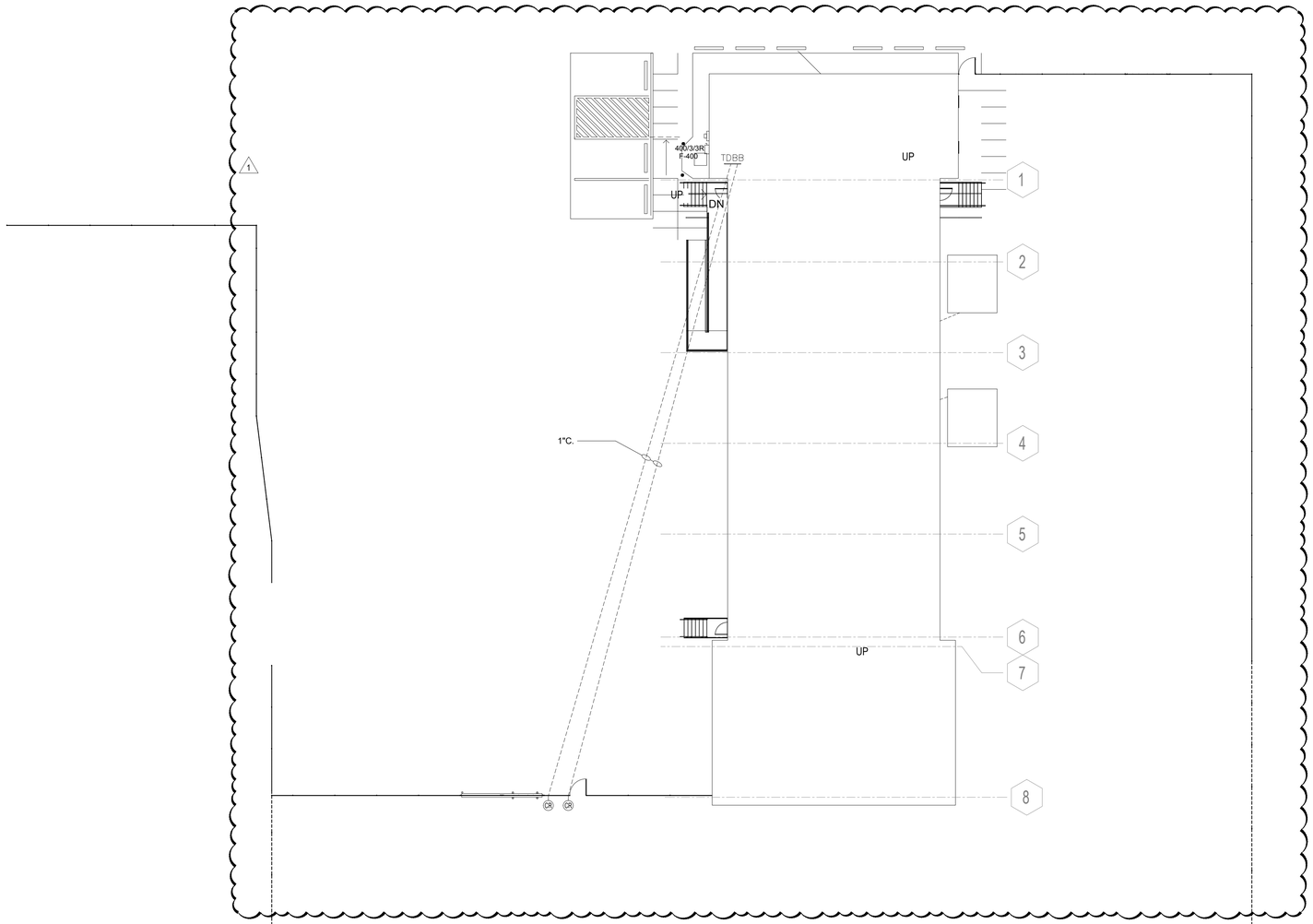
TPS PROJ. # 21238

WBA ARCHITECTURE

BLM OFFICE RENOVATIONS

3405 Hwy. 80 E
Pearl, MS



1 E002 SITE PLAN
Scale: 1/16" = 1'- 0"

WBA # 21-069

REVISIONS

NO.	DESCRIPTION	DATE
1	ADD #1	1-10-2022

E002
ELECTRICAL DETAILS

SPECIFICATIONS

SECTION 26-05-11
ELECTRICAL GENERAL AND WORK IN EXISTING FACILITIES

PART 1 - GENERAL

1.1 GENERAL

A. All work shall conform to the latest editions of the National Electrical Code (NEC) [National Fire Protection Association (NFPA) 70], the Standard for Electrical Safety in the Workplace (NFPA 70E), the Life-Safety Code (NFPA 101), the International Building Code, the Americans with Disabilities Act, and all other applicable federal, state, and local codes and regulations.

B. All work shall be performed in strict compliance with NFPA 70E. Submission of bid shall stand as an agreement by the Contractor to indemnify and hold harmless the Engineer and Owner from all liability related to damage and/or injury to personnel and equipment during the installation of the project.

C. The contract documents are schematic in nature and are intended to convey the intent of the electrical work to be performed on this project. Provide all material, labor, equipment, etc., necessary to provide complete and operable electrical systems.

D. The General Conditions, Supplementary Conditions, General Requirements, Information to Bidders, and all other parts of this set of Contract Documents are hereby adopted and are applicable to the Division 26, 27, and 28 Contractor.

1.2 SCOPE OF WORK

A. Visit site prior to bid. Devise a plan for installation of complete and operable electrical systems meeting the requirements and intent of the Contract Documents. Submission of Bid stands as evidence that the Contractor accepts the Contract Documents as sufficient and complete for the work to be performed. Notify the engineer at least two weeks prior to bid of any discrepancies between the Contract Documents and actual field conditions. No change orders will be granted due to existing conditions that could have been observed during a site visit.

B. Provide temporary power and lighting during construction. Coordinate with the General Contractor for the exact requirements.

C. Electrical switchgear and panelboard layouts are based on sizes of Square D equipment. Equipment manufactured by General Electric, Siemens, and Cutler Hammer are equally acceptable. However, the Electrical Contractor is responsible for selecting and furnishing gear that will fit in the spaces provided and shall be responsible for arranging the gear to meet the required code clearances. Regardless of the manufacturer, the Electrical Contractor shall provide a drawn-to-scale electrical layout with the equipment brochures for all rooms in which panelboards, motor control centers, switchboards, or switchgear are placed. The drawings shall include the work of all other trades including mechanical system piping, ductwork, sprinkler piping, etc. No conduits shall be installed until layouts have been approved.

D. Locate junction boxes, pull boxes, disconnects, and other equipment requiring access in such a manner that they are accessible at the end of construction. Notify the Architect where it is impossible to plan conduit routing or equipment placement in such a manner, and provide the necessary access panels in the ceiling or wall as required. The access panel type and style shall be subject to the Architect's approval. Employ a painter to provide the appropriate coatings as directed by the Architect.

E. Relocate, or recircuit, all electrical equipment, conduit, and circuitry conflicting with or obstructing work on this project. Where the electrical systems are owned by other entities, pay them to relocate, or recircuit, their facilities.

F. Arrange for connection of service to all electrical systems by the appropriate utility company. Coordinate completely with all utility company requirements even if they are different than the contract documents. If utility company requirements are different from the contract documents, notify the engineer at least ten days prior to bid. Pay all utility company charges necessary for installation and connection of service. **No change orders will be granted for utility company connection fees.**

G. Provide all necessary equipment, raceway, circuitry, fittings, lugs, terminations, labor, etc. and connect to all equipment and appliances requiring electrical connections furnished herein, by the Owner, or by other Contractors. Prior to ordering electrical equipment and roughing in for equipment furnished by the Owner or other Contractors, verify all connection types, connection locations, connection heights, voltages, number of phases, conductor sizes, disconnecting means, breaker sizes, etc. Furnish the proper electrical equipment for the equipment actually being supplied.

1.3 WORK IN EXISTING FACILITIES

A. All work shall be scheduled and coordinated through the General Contractor with the Owner. Provide necessary costs for all work during both normal and premium work hours in bid.

B. Provide continuous uninterrupted power to all existing facilities to remain during the entire construction process. Any required power outages must be scheduled and approved by the Owner in writing at least three days prior to the outage.

1.4 SCOPE OF WORK IN EXISTING FACILITIES

A. Prior to beginning work, survey existing electrical systems. Document, in writing, signed by the Owner any portions of existing systems that are not operating properly before construction begins. Any electrical systems found inoperable at the end of the construction process that has not been so documented shall be repaired at the end of construction.

B. Remove electrical equipment in areas being demolished and electrical equipment feeding other equipment being demolished. Remove raceways and circuitry back to the panel of origination. Where raceways are installed in inaccessible areas, remove conductors back to the panel of origination. Where circuits are not being completely demolished, remove conductors back to a junction box or other connection point outside of the renovated area and recircuit existing electrical equipment that is to remain as required. Where necessary, completely refeed existing electrical equipment that is to remain. It is the intent of this specification that all existing equipment to remain be left completely operable at the end of the construction process.

C. Survey existing panel board circuitry and provide new typewritten directories giving complete as-built circuitry information for all pane lboards affected by the construction on this project.

D. Where new circuit breakers are installed in existing equipment, the new circuit breakers shall be manufactured for installation in that equipment. The Amperes Interrupting Current (AIC) Rating shall equal the AIC rating of the existing equipment. A breaker with a lower AIC rating may be used if the contractor provides calculations showing that the breaker rating is sufficient to handle the available fault current. Submit these calculations for approval prior to ordering the breaker. An AIC rating on an existing breaker in the panelboard or switchboard does not demonstrate sufficient proof that the available fault current is less than that breaker's AIC rating.

1.5 SUBMITTALS AND SHOP DRAWINGS

A. Within 30 days after award of Contract and prior to beginning work, provide six bound copies of manufacturers' cut sheets containing information concerning each article of electrical equipment to be furnished on this project. These cut sheets shall contain sufficient information to prove compliance with the contract documents. Information addressing the requirements of the contract documents shall be highlighted. Each bound set shall bear the stamp of the Electrical Contractor as well as the General Contractor.

B. Within 30 days after award of Contract and prior to beginning work, provide six sets of full size shop drawings showing exact equipment locations with all equipment drawn to scale. Show all raceways with their junction boxes and pull boxes. Show all connection types, locations, and heights to equipment. Provide mounting and support details for all raceways and equipment. Coordinate with all other trades to ensure that there are no conflicts between systems. Each set of shop drawings shall bear the stamp of the Electrical Contractor, the General Contractor, and all Project Sub-Contractors. Failure to submit these Shop Drawings will render the Electrical Contractor responsible for resolving all conflicts between trades at his own expense.

C. Submittals and Shop Drawings are reviewed to determine quality of materials. Approval of submittals and shop drawings does not relieve the Contractor of meeting the requirements and intent of the Contract Documents.

D. Outlet, light fixture, and device locations are shown in their approximate locations on the drawings. Coordinate with Architectural drawings to get final locations. Mount all electrical outlets shown at counters such that the bottom of the box is two inches above the backsplash or six inches above a counter with no backsplash. The Owner reserves the right to relocate outlets, light fixtures, and devices a distance not to exceed twenty feet prior to the installation of outlet boxes.

PART 2 - PRODUCTS

2.1 All electrical equipment and materials shall be new. All equipment and materials shall be stored on the job site in weatherproof enclosures. Electronic equipment shall be stored in facilities where the temperature and humidity are controlled. In addition, comply completely with all manufacturers' requirements for storage and handling.

2.2 All equipment shall be UL listed for the application in which it is used and shall be labeled as evidence of its UL listing.

2.3 Each circuit breaker supplying a multiwire branch circuit shall be installed with a manufacturer supplied handle tie to simultaneously disconnect all ungrounded conductors. Each multi-wire branch circuit shall comply with NEC article 210.4.

2.4 Products shall be selected to maintain or improve the aesthetics of the facility. Gain approval of the Architect or Engineer prior to ordering or installing any electrical equipment or raceway.

PART 3 - EXECUTION

3.1 WORKMANSHIP

All work shall be performed with an emphasis on neatness. The Engineer, Architect, and Owner retain the right to reject work that is, in their judgment, unsatisfactory.

3.2 EXPERIENCE

The Contractor shall have completed at least two jobs of similar size and scope within the past five years. The Engineer reserves the right to reject Contractors based on their inability to submit evidence of their experience, or based on experience with the Contractor on previous projects.

3.3 PERMITS

Obtain and pay for all permits required for work.

SECTION 26-05-11
ELECTRICAL GENERAL AND WORK IN EXISTING FACILITIES (CONT.)

3.4 FIREPROOFING

A. Fireproof all penetrations through firewalls with a fireproofing compound listed to maintain the rating of the wall through which the raceway passes.

B. The fire-stopping caulk shall be a one-part, intumescent, latex elastomer. The caulk shall be capable of expanding a minimum of 3 times at 1000°F. The material shall be thixotropic and be applicable to overhead, vertical and horizontal fire-stops. The caulk shall be listed by independent test agencies such as UL or FM and be tested to, and pass the criteria of, ASTM E 814 Fire Test, tested under positive pressure. It shall comply with the requirements of the NEC (NFPA-70), BOCA, ICBO, SBCCI and NFPA Code 101. Fire-stopping caulk shall be paintable, but shall be non-hardening. Fire-stopping caulk shall be 3M Fire barrier CP or approved equal.

C. The fireproofing materials shall be installed by individuals certified to perform such work. Submit evidence of personnel certifications with electrical equipment brochures.

D. Where cable trays are shown crossing firewalls, terminate the cable tray on each side of the wall and run the conductors through conduits installed in the wall. Fireproof around the conductors after installation.

E. Provide mineral wool packing and all other materials recommended by the manufacturer for a complete installation.

3.5 FLASHING

Provide all necessary equipment and flash all roof penetrations in such a manner to ensure that all penetrations are completely sealed and all roof warranties remain in effect. Where there are no roof warranties, the Electrical Contractor shall guarantee the electrical penetrations against leaking for a period of one year from project completion. Employ a professional roofing contractor to perform all flashing.

3.6 PROTECTION

A. Keep energized equipment covered during all phases of construction. Use enclosures, doors, covers, etc., to ensure that neither personnel nor machinery contact live electrical equipment.

B. Replace electrical equipment that is damaged during construction.

3.7 DAMAGED FACILITIES

A. Locate all existing site equipment and utilities prior to beginning construction. Repair all equipment and utilities damaged during construction, or pay for the repair of the equipment and utilities where required by the Owner of the damaged facilities.

B. Coordinate the routing of all circuits and the locations of all devices with the Architect or Engineer and the Owner. Shop drawings shall describe completely the locations and elevations of all raceways, boxes, fittings, and equipment.

3.8 EXCAVATION AND BACKFILL

A. Excavate in such a manner as to minimize erosion of the soil. Backfill trenches around conduits with fine sand that is free of rocks, clods, and debris. Fill sand a minimum of 4" over conduits. Backfill the rest of the trench in six inch increments, wetted, and tamped. Final compaction shall be a minimum of 95% of that of the adjacent earth. Resurface the grade with the same material as that excavated from the grade whether it be paving, concrete, sod, etc. Repair work shall be comparable to the quality of the original site prior to excavation.

B. Provide a 3" wide plastic labeled marker tape 12" below grade over all electrical conduits buried underground. Tapes for power circuits shall have a warning such as "Caution: Buried Electrical Line Below." Labels on tapes for telephone, data, cable television, and other facilities shall adequately describe the line over which they are buried.

C. Provide a #12 AWG wire in each buried conduit run labeled accordingly on each end.

3.9 IDENTIFICATION

A. Label all switchboards, panel boards, motor starters, disconnects, and motor control centers furnished under Division 26, 27, and 28 and other divisions of this contract with engraved rigid plastic nameplates having letters at least ¼ inch high. Nameplates shall be bolted to the enclosure. All labels shall indicate the voltage, number of phases, the AIC rating, and the panelboard and circuit number from which the device is fed.

B. All circuit breakers in Switchboards, Motor Control Centers, Square D I-Line, and similar pane lboards shall be labeled with plastic nameplates (as described in Part A) providing the name of the load served and the ampacity and number of poles of the breaker.

C. All Square D NQOD, NF and similar panel boards shall have typewritten circuit directories.

D. Label all conductors at all junction boxes, pull boxes, and terminations with typewritten adhesive markers indicating the panel board or switchboard name and circuit number of the conductor. Labels shall be Brady Datatab or approved equal.

E. Label all junction boxes and pull boxes with stenciled painted letters containing the name of the panel board and circuit numbers of the circuits contained within. Use black paint for normal circuits, red paint for emergency circuits, and orange paint for fire alarm circuits. The Contractor may select other colors for junction boxes and pull boxes for auxiliary systems.

F. Label all conduits in the most likely direction of access and view every 50' and on both ends of each bend with stenciled painted letters containing the name of the panel board and circuit numbers of the circuits contained within. Use black paint for normal circuits, red paint for emergency circuits, and orange paint for fire alarm circuits. The Contractor may select other colors for conduits for auxiliary systems.

3.10 AS-BUILT DRAWINGS

Maintain one set of drawings during construction for as-built markings. Mark these drawings in red to indicate field changes. Provide these drawings to the Engineer at the end of the construction process. Where required under the General Conditions, Special Conditions, or other portions of this contract, provide revised computer drawn as-built drawings to the Engineer at the end of construction.

3.11 TESTING

A. Test all systems, or pay testing agencies as required, for compliance with the requirements of all regulatory agencies.

B. Test the electrical power service ground using a Biddle Three-Terminal Ground Resistance Tester, or approved equal. Grounds shall meet the requirements of the NEC, or of Specification 26 05 26, whichever is more stringent. Test grounds only when the earth is dry. Provide additional ground rods as necessary to achieve the required results.

C. Prior to making final equipment connections, test all service, feeder, and branch circuit conductors for continuity, phase-to-phase faults, and phase-to-ground faults using a Megger BM100 or approved equal test instrument generating 500 Vdc. Insulation resistance shall be a minimum of 500,000 Ohms between any conductor and ground and 1,000,000 Ohms between any two conductors.

D. Test other systems as required in their respective specifications.

E. Provide three bound copies of all test results to the Engineer at the end of the construction process. No Recommendation of Substantial Completion will be granted until all testing reports have been submitted.

3.12 WARRANTY

Provide the Owner a written guarantee to repair, or replace, all faulty equipment and systems for a period of one year from date of Substantial Completion. During this one-year period, a representative of the Contractor shall be on the site actively working on the repairs within 24 hours of the Owner's telephone call. During this period of time, the Owner shall not be charged for any repair work or expenses related with the repair work unless the Contractor can prove that the Owner has damaged the equipment or system.

END OF SECTION

SECTION 26-05-20
LOW-VOLTAGE POWER CONDUCTORS AND CABLES

PART 1 - GENERAL

1.1 Provide all circuitry, terminations, splices, connectors, lugs, and other equipment necessary for connection of all equipment requiring electrical connections.

1.2 METAL CLAD CABLE.

A. Provide all circuitry, terminations, splices, connectors, lugs, and other equipment necessary for connection of metal clad cable where used on this project.

B. Metal Clad (MC) Cable may only be used where new electrical devices are being installed in existing hollow walls. All other circuitry shall be in conduit per Specification 26 05 33.

C. Provide a junction box in the accessible ceiling above the location of the new outlet. Provide a hole in the wall above the accessible ceiling. At the proper outlet height, cut out a hole in the wall for the use of an after-construction box. Run MC Cable down the wall to the junction box in the crawlspace, and connect it to the after-construction box before installing the box in the wall.

D. Each MC cable shall be furnished with a green insulated copper ground wire that is not shown by tic marks on the drawings.

PART 2 - PRODUCTS

2.1 CONDUCTORS

A. All electrical conductors shall be soft-drawn annealed copper having 98% conductivity and an insulation rating of 600V.

B. Conductors shall be UL listed for installation in the raceway in which they are to be installed.

C. Conductors shall be rated 90 degrees C for use in residential, commercial, industrial, and institutional facilities, and shall be listed as 105 degrees C appliance wire. Conductors shall be listed under UL 83, UL 1063, and UL 758. If XLP or EPR insulation is used, conductors shall be listed under UL 44 and NEMA WC7.

D. Conductors used for branch circuits, feeders, auxiliary systems, and controls run in dry locations shall have PVC insulation and a Nylon outer jacket. They shall be THHN/THWN or XHHW-2.

E. Conductors used for branch circuits, feeders, auxiliary systems, and controls run in wet locations shall have XLP or EPR insulation and be type XHHW-2.

F. Conductors used for operating room isolation panels and associated branch circuits shall be copper stranded conductor having a cross-linked polyethylene insulation or equivalent with a dielectric constant of 3.5 or less. Wire-pulling compounds that increase the dielectric constant shall not be used on the secondary conductors of isolation panels. The isolated circuit conductors shall be identified as follows:

Isolated Circuit #1 - Orange
Isolated Circuit #2 - Brown

For 125 volt, 15 & 20 ampere receptacles: The orange conductor shall be connected to the terminal on the receptacle that is identified in accordance with NEC 200.10(B) for connection to the grounded circuit conductor.

G. Conductors used for services shall be type SE for aerial services or type USE-2 for underground services.

H. Sizes #10 and #12 shall be solid conductors except where used for controls. All controls conductors shall be stranded.

I. Use minimum #14 AWG conductors for controls and auxiliary circuits. Use larger conductors as required to compensate for voltage drops exceeding 3% of the system voltage.

1

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CHRISTOPHER L. GREER
167739
12/9/2021
STATE OF MISSISSIPPI
REGISTERED ENGINEER

WBA # 21-069

REVISIONS

NO.	DESCRIPTION	DATE
1	ADD #1	1-10-2022

E003
ELECTRICAL SPECS

SPECIFICATIONS

SECTION 26-05-20
LOW-VOLTAGE POWER CONDUCTORS AND CABLES (CONT.)

J. Conductors shall be furnished in the colors described below unless local ordinances require different colors. Conductors #8 and smaller shall be furnished with colored insulation; conductors larger than #8 shall be taped with the appropriately colored tape for a length of at least 2" at each panelboard, junction box, pull box, load, or other exposed location. Ground conductors shall be taped green for their entire exposed length.

SYSTEM VOLTAGE	208Y/120V, 3 PHASE, 4 WIRE	120/240V, 3 PHASE, 4 WIRE	480Y/277V, 3 PHASE, 4 WIRE
PHASE A	BLACK	BLACK	BROWN
PHASE B	RED	ORANGE	ORANGE
PHASE C	BLUE	BLUE	YELLOW
NEUTRAL	WHITE	WHITE	GRAY
GROUND	GREEN	GREEN	GREEN

2.1 Metal Clad Cable

A. Shall be UL listed as type MC. It shall meet the requirements of UL 1569. It shall also be constructed in accordance with NEC 334 C.

B. Fittings shall be manufactured and UL listed for the application in which they are used.

C. MC cable shall have an interlocked armor made of aluminum alloy or galvanized steel.

D. All electrical conductors shall be soft-drawn annealed copper having 98% conductivity and an insulation rating of 600V.

E. Conductors shall have PVC insulation and a Nylon outer jacket. They shall be THHN/THWN or XHHW-2.

F. Sizes #10 and #12 shall be solid conductors. Other conductors shall be stranded.

G. Conductors shall be furnished in the colors described below unless local ordinances require different colors. Conductors #8 and smaller shall be furnished with colored insulation; conductors larger than #8 shall be taped with the appropriately colored tape for a length of at least 2" at each panelboard, junction box, pull box, load, or other exposed location. Ground conductors shall be taped green for their entire exposed length.

SYSTEM VOLTAGE	208Y/120V, 3 PHASE, 4 WIRE	120/240V, 3 PHASE, 4 WIRE	480Y/277V, 3 PHASE, 4 WIRE
PHASE A	BLACK	BLACK	BROWN
PHASE B	RED	ORANGE	ORANGE
PHASE C	BLUE	BLUE	YELLOW
NEUTRAL	WHITE	WHITE	WHITE
GROUND	GREEN	GREEN	GREEN

PART 3 - EXECUTION

3.1 CONDUCTORS

A. Install conductors carefully using a minimum of two tradesmen - one feeding the conductors into the conduit, and the other pulling the conductors into the conduit.

B. Join stranded conductors with appropriate mechanical or compression lugs. Wire nuts may be used for solid conductors only.

C. Splices shall only be made in approved enclosures. Splices shall not be pulled inside conduits.

D. Provide cable supports and strain relief connectors as required by the NEC.

E. Furnish junction boxes, pull boxes, handholes, manholes, etc. as required to ensure that the maximum number of bends allowed by the NEC are not exceeded and to ensure that the cables are not damaged during installation.

3.2 METAL CLAD CABLE EXECUTION

A. Install MC Cable per the requirements of NEC 334 B.

B. Join stranded conductors with appropriate mechanical or compression lugs. Wire nuts may be used for solid conductors only.

C. Provide cable supports as required by the NEC.

D. Furnish junction boxes, pull boxes, handholes, manholes, etc. as required to ensure that the maximum number of bends allowed by the NEC are not exceeded and to ensure that the cables are not damaged during installation. Do not enclose junction boxes in areas that will be inaccessible at the end of construction.

E. MC Cable shall be run complete between junction boxes or outlet boxes. Splices are not allowed.

END OF SECTION

SECTION 26-05-26
GROUNDING AND BONDING

PART 1 - GENERAL

1.1 GENERAL

Ground all equipment, systems, structures, etc., per the latest edition of the National Electrical Code (NEC).

PART 2 - PRODUCTS

2.1 Use mechanical bolted connections in dry locations that are accessible.

2.2 Use exothermic welds in wet locations and locations that will be inaccessible at the end of construction.

2.3 Ground rods shall be UL listed 3/4" x 10' copper-clad steel ground rods with a minimum copper cladding thickness of 10 mils.

PART 3 - EXECUTION

3.1 Ground rods shall be installed with their tops no less than 6" below grade.

3.2 Bond ground connections to metal raceways at each end of the conduit run. Provide grounding bushings where required by the NEC. Where cable trays are used, bond the ground conductor to each section and fitting of the tray.

3.3 Provide all circuits with an equipment grounding conductor sized per the NEC, or as shown on the drawings. Circuitry shown on drawings does not include the required equipment grounding conductor. Where multiple circuits are run with a common neutral, only one equipment grounding conductor is needed. The equipment grounding conductor shall be furnished with green insulation for conductors #8 AWG and smaller; where larger than #8, the equipment grounding conductor shall be taped green for its entire exposed length.

3.4 The grounding electrode conductor(s) shall be bare or shall be colored green for its entire exposed length.

3.5 Individual ground conductors shall be installed in PVC conduit sized per the NEC.

3.6 Provide receptacles, luminaires, and other devices with a green conductor that bonds the receptacle grounding screw or pigtail, the outlet box grounding screw, and the equipment grounding conductor together.

3.7 In health care facilities, where two or more different panel boards serve the same patient-care area, an 8 AWG insulated continuous copper conductor shall bond these different panel boards together.

3.8 Telephone, cable television, and other auxiliary systems shall be bonded to the electrical building service ground using a conductor no smaller than #6 AWG.

END OF SECTION

SECTION 26-05-33
OUTLET BOXES AND JUNCTION BOXES

PART 1 - GENERAL

1.1 GENERAL

A. All electrical systems circuitry shall be contained in raceways unless expressly listed in the specification for that system.

B. Outlet Boxes and Junction Boxes

1. Furnish and install all outlet boxes and junction boxes in accordance with this specification and the requirements of the NEC.

2. Provide outlet boxes for all switches, receptacles, luminaires, telephone jacks, cable jacks, and other devices furnished in this Contract. Provide all necessary hardware including, but not limited to, additional structural support, support brackets, screws, bolts, fixture studs, etc.

3. Outlet boxes and junction boxes in dry locations shall be galvanized stamped steel boxes sized per the latest edition of the National Electrical Code (NEC), but no less than 4" x 4" x 2 1/8" deep. The thickness of the steel shall be in compliance with the requirements of the NEC. Provide stamped steel covers for all junction boxes manufactured to fit the particular box on which it is used.

4. Outlet boxes used in concrete and masonry walls and ceilings shall be of the concrete type manufactured for such applications.

5. Outlet boxes and junction boxes in wet locations shall be of cast metal construction with gasketed waterproof covers. All conduit connections to the boxes shall be made watertight.

6. Wall outlet boxes shall be 4" x 4" x 2 1/8", or larger as required, with plaster rings provided for final flush installation. Plaster rings shall have single-gang openings unless the equipment mounted inside requires two-gang installation.

7. Floor boxes in slabs on grade shall be deep rectangular, cast iron, fully adjustable boxes with brass rings. Covers shall be made of brass and shall provide flip top access to the power or data jacks inside. Screw-on covers are not acceptable unless a flip-top cover is unavailable for the device installed in the floor box. Provide the box sized as required for the number of devices shown installed. Boxes shall be as follows, or approved equal:

a. Single-Gang Boxes: Hubbell B2436
b. Single-Gang Cover Plates: Hubbell S3825
c. Double-Gang Boxes: Hubbell B4233
d. Double-Gang Cover Plates: Two Hubbell S3825 Cover Plates
e. Triple-Gang Boxes: Hubbell B4333
f. Triple-Gang Cover Plates: Three Hubbell S3825 Cover Plates

8. In slabs above grade, use cast iron, semi-adjustable shallow boxes as follows, or approved equal:

a. Single-Gang Boxes: Hubbell B2414
b. Two-Gang Boxes: Hubbell B4214
c. Three-Gang Boxes: Hubbell B4314

9. Receptacles installed in floor boxes shall be as described in Specification 26 09 23, Switches and Receptacles. Data, Telephone, or Combination Data and Telephone Outlets shall consist of Category 5 rated RJ45 jacks mounted in a Hubbell DJOI strap for use under a S3825 flip top cover plate.

10. In existing above grade, use poke thru boxes as follows, or equal:

a. Hubbell System One

11. Size all boxes per the requirements of the latest NEC.

1.2 SCOPE OF WORK

A. Raceways

1. Provide all raceways, fittings, couplings, anchors, supports, hangers, etc. for complete raceway systems.

2. Use Schedule 40 polyvinyl chloride (PVC) conduit for circuits run underground and in slabs on grade level. Provide PVC-coated galvanized rigid steel elbows and PVC-coated galvanized rigid steel conduit for all vertical runs extending to a point at least 6" above grade. Galvanized Rigid steel conduit coated with two complete coats of asphaltum or bituminous paint may be used in lieu of PVC-coated galvanized rigid steel conduit.

3. Use Galvanized Rigid Steel (GRS) conduit for all applications where circuits are run above ground exposed to the weather.

4. Use Intermediate Metal Conduit (IMC) for all branch circuits, feeders, and auxiliary circuits requiring conduit 1 ¼" nominal trade size or larger in dry locations.

5. Use Electrical Metallic Tubing (EMT) for all branch circuits and feeders less than 1 ¼" nominal trade size in dry locations and in slabs above grade level.

PART 2 - PRODUCTS

2.1 Products for Raceways

A. PVC conduits, fittings, couplings, adapters, and accessories shall be UL listed and approved for use with 90 degree Celsius conductors. The UL label shall be affixed to each ten foot length of conduit and each fitting. Conduits shall comply with NEMA Specification TC-2 and UL 651. Fittings shall comply with NEMA TC-3 and UL 514b.

B. PVC-coated conduits, fittings, couplings, adapters, and accessories shall be UL listed with PVC as the primary corrosion protection. They shall be hot dipped galvanized rigid steel conduit with threads electro-galvanized after cutting. The conduit shall meet UL 6. The fittings shall meet UL 514B. The PVC coating shall be uniformly applied to the interior and exterior of all conduit and fittings. The coating shall be nominally 2 mils thick. The PVC coating shall extend one pipe diameter or two inches, whichever is less, at every male fitting except unions to fit over the joining female connection. Couplings shall contain a series of longitudinal ribs, 40 mils in thickness, to protect the coating from damage by tools during installation. PVC-coated conduits shall be ETL Verified PVC-001. Fittings shall be manufactured to the same standard. PVC-coated conduit shall be Robroy Plastibond or approved equal.

C. GRS conduits, fittings, couplings, adapters, and accessories shall be UL listed. They shall be hot-dipped galvanized steel. They shall meet the safety standards of UL 6, and shall be manufactured to ANSI C80.1. Threads shall be hot galvanized after cutting.

D. IMC conduits, fittings, couplings, adapters, and accessories shall be UL listed. They shall be hot-galvanized steel. Fittings, couplings, adapters, and accessories shall be the same as those for GRS conduit described above. IMC shall meet UL 1242 and ANSI C80.6. Threads shall be hot galvanized after cutting. The inside of the conduit shall be finished with a corrosion-resistant coating.

E. EMT conduits, fittings, couplings, adapters, and accessories shall be UL listed. They shall be hot galvanized steel and shall be produced in accordance with UL 797 and ANSI C80.3. The inside shall be finished with a corrosion-resistant lubricating coating.

F. Conduit fittings used with EMT conduits may be set screw indenter type or compression type. All metallic fittings for IMC and Rigid conduit shall be compression type fittings.

G. Flexible metallic conduit shall be constructed of galvanized steel and shall be UL listed as compliant with UL 1 and UL 1479.

H. Liquidtight flexible conduit shall be constructed of galvanized steel and shall be coated with a PVC jacket to resist liquids, dirt, grease, and oils. All fittings shall be designed, constructed, and installed to maintain the integrity of the liquidtight connections. Liquidtight flexible conduit shall comply with UL 360.

2.2 Acceptable Manufacturers for Outlet Boxes and Junction Boxes.

A. Outlet boxes and junction boxes shall be manufactured by Raco, Steel City, Crouse Hinds, or Appleton.

PART 3 - EXECUTION

3.1 Conduit Execution

A. Conduits run underground shall be buried no less than 24" deep. Services and primary conduits feeding transformers shall be buried no less than 48" deep.

B. Do not install conduits in or below ground floor slabs, except for service conduits, site lighting, and where specifically indicated on the drawings.

C. Do not install conduits within 6" of the deck where a screw down type roof system is utilized.

D. PVC-coated conduits may be field-bent provided that manufacturer-approved tools are used. Individuals installing PVC-coated conduits shall be trained for installation by factory-certified trainers. Provide evidence of training with equipment brochures.

E. Support and install all conduits per the latest edition of the National Electrical Code. Support groups of conduits with electrical strut supported by threaded rods anchored to the building structure. Supports shall be designed to hold no less than twice the weight of the conduit and conductors to be supported plus an additional 250 pounds at midspan.

F. All conduits shall be grouped and run parallel to each other and to building walls.

G. All conduits shall be assembled according to the manufacturer's instructions.

H. Conduits run underground shall be assembled to be watertight.

I. Cap all conduits during installation. Pull a mandrel sized for that conduit and a cleaning brush through each conduit before installation of any conductors.

SECTION 26-05-33
OUTLET BOXES AND JUNCTION BOXES (CONT.)

J. Conduits that are obviously damaged and field bends that are obviously out of round shall be replaced.

K. Provide final connections to equipment with flexible metallic conduit. In wet or damp locations, use liquidtight flexible conduit. Flexible conduit shall not exceed 72".

L. Terminate conduits entering boxes with a locknut inside the box and a locknut outside the box. Provide protective bushings on all conduit threads. Use watertight hubs where conduit terminations are exposed to moisture.

M. Use grounding bushings on all feeder conduits, all underground conduits, and where required by the National Electrical Code.

N. Conduits shall be run no closer than 12" to hot water pipes.

O. Where conduits are run through the ceiling and are required to make connections to equipment within the room that is not located near a wall, support the conduit from the structural ceiling and provide a flange bolted to the floor. Install a tee conduit fitting in the vertical run of conduit, and make the connection to the equipment with a piece of flexible conduit extending from the tee conduit fitting to the equipment.

P. Provide expansion fittings where conduits cross building expansion joints. Provide grounding jumpers between the conduits.

Q. Provide EMT conduit sleeves where conduits pass through walls, floors, or footings sized a minimum of two nominal trade sizes larger than the conduit that must pass through the sleeve.

R. Equip all empty conduits with a pullwire or string capable of withstanding 200 pounds of pulling tension.

3.2 Execution for Outlet Boxes and Junction Boxes.

A. All devices shall be flush mounted unless specific written permission is obtained from the Engineer for a particular device in a particular location.

B. Install outlet boxes in walls, and provide plaster rings such that wall finish contractor's finish is flush against the edge of the plaster ring. Workmanship will not be accepted where the hole in the wall shows behind the cover plate, or the wall finish is uneven or unpainted at the edge of the cover plate.

C. Use round or square ceiling outlet boxes as required for the device being installed. The ceiling shall be finished flush against the box; the fixture shall completely cover the box and mount tight against the ceiling. Coordinate the requirements of the fixture prior to installing the box.

D. Provide junction boxes, pull boxes, and conduit fittings where required by the NEC to limit the number of bends in the raceway, and where required to prevent damage to conductors due to long runs.

E. Junction boxes and pull boxes installed in the ground outside shall be Quazite Composolite or approved equal. Mount the boxes over 24" of washed gravel fill. If splices are to be made inside the boxes, the boxes shall be of the type furnished with a bottom, and all conduit connections shall be watertight. In addition, all conductor splices shall be made watertight using an appropriate splice kit as manufactured by 3M, or an approved equal.

END OF SECTION

SECTION 26-09-23
SWITCHES AND RECEPTACLES

PART 1 - GENERAL

Furnish and install all switches and receptacles in accordance with this specification and the requirements of the NEC.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

Switches and receptacles shall be manufactured by Hubbell, Cooper Wiring Devices, Leviton, or Pass & Seymour.

2.2 GENERAL

A. Switches and receptacles shall be specification grade. They shall have ampacity and voltage ratings suitable for the application in which they are used.

B. Consult architect or engineer for device colors prior to ordering devices.

C. Provide brushed stainless steel cover plates for all devices. A single cover plate shall cover all devices in one box.

D. Light switches shall be 20 Ampere, 120-277V back-wired and side-wired toggle switches. They shall be rated up to 2 HP at 240V. Each switch shall be equipped with a grounding screw. Switches shall be Hubbell CSB series or approved equal.

E. Duplex NEMA 5-20R receptacles shall be Hubbell HBL 5362A or approved equal.

F. Duplex GFI NEMA 5-20R receptacles shall be Hubbell HBL GF5362A or approved equal.

G. Weatherproof while-in-use cover plates shall be Teddico #34017-7 or approved equal. Cover plates shall be single gang, lockable, and constructed of heavy duty die cast metal.

H. All 125V, 15 and 20 ampere receptacles installed in dwelling units shall be of the tamper-resistant type.

I. All 15 and 20 ampere, 125 and 250V non-locking receptacles installed in wet or damp locations shall be listed as the weather-resistant type.

J. Devices furnished in this Contract, but not listed above, shall be of the same standard of quality as those items listed.

PART 3 - EXECUTION

3.1 Flush mount all devices unless specific written permission is obtained from the Engineer for a particular device in a particular location.

3.2 Install all devices vertically unless the drawings specifically state that the particular device should be mounted horizontally.

3.3 Install receptacles with the ground slot up.

END OF SECTION

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REVISIONS

NO.	DESCRIPTION	DATE
1	ADD #1	1-10-2022

E004
ELECTRICAL SPECS

SPECIFICATIONS

SECTION 26-09-26
VACANCY SENSORS

SECTION 260926 - VACANCY SENSORS

PART 1 - GENERAL

1.1 Furnish and install a complete system of Vacancy sensors as shown on the drawings and as specified herein to comply with the International Energy Conservation Code (IECC) 2012. The drawings are provided to show the general scope of the work, and show the absolute minimum components required. Actual system components, quantities, and locations shall be determined by the motion detector vendor and provided to the Contractor with the installation shop drawings.

1.2 The Contractor and Sales Representatives are advised to take notice of specified component characteristics when attempting to select and propose substitutions. It is highly unlikely that substitutions on a one-for-one component basis will produce results that provide acceptable system performance.

1.3 Provide all power packs, hardware, software, devices, circuitry, and other components, material, and labor required to install, configure, and test the entire system to the satisfaction of the Architect, Owner, and Engineer.

1.4 Submit six sets of manufacturer's cut sheets describing completely all equipment, and six sets of shop drawings showing all circuitry including terminal-to-terminal connections.

1.5 The wiring diagrams on these drawings are based on our best interpretation of the manufacturer's data that was available at the time of design; however, they shall not be used for system installation and configuration. The controls equipment vendor is expected to be thoroughly knowledgeable of the equipment that is being proposed, and shall provide detailed shop drawings tailored for each circuit and lighting zone on the project. General manufacturer's data sheets shall not be acceptable. The shop drawings shall be suitable for the installing electrician to use for complete installation of the circuitry without referring to data sheets or installation manuals for connection of lighting control equipment. These requirements shall be followed whether the specified equipment, or products of other manufacturers, is provided.

PART 2 - PRODUCTS

2.1 Hallway Vacancy sensors: Vacancy sensors used in the hallways shall be passive infrared, ceiling-mounted units with a coverage of 6' x 130'. They shall be Sensor Switch HW13 WV BR or approved equal.

2.2 Wall mounted LED lighting controls shall be 0-10V dimmer/vacancy sensor type equal to Lutron MS-Z101-V-XX

2.3 Wall mounted lighting controls shall be dual technology (ultrasonic/passive infrared) dual relay vacancy sensor type equal to Lutron MS-B202-V-XX

2.4 Areas up to 500 Square Feet: Ceiling mounted Vacancy sensors used in areas up to 500 square feet shall be dual technology infrared and passive infrared, ceiling-mounted units with a 360 degree, 500 square foot coverage.

2.5 Power Packs: Power packs shall be of the same manufacturer as the Vacancy sensors. Each shall be capable of controlling a 20 ampere circuit. They shall be rated for operation at the voltage of the system on which they will be used.

2.6 Circuitry: Provide control circuitry as required by the manufacturer for optimum system operation, but no less than the following: Control cables shall be 3-conductor #22 AWG copper with an overall jacket. Adjust conductor sizes as required to overcome unacceptable voltage drop.

PART 3 - EXECUTION

3.1 Vacancy sensors shall be provided so that their coverage areas overlap and there are no dead zones in the rooms where persons may stand and not be detected.

3.2 Vacancy Sensors shall be set for "manual on/automatic off" operation.

3.3 All work shall be done by qualified system technicians.

3.4 Wiring, including control wiring, shall be in Raceways meeting Specification 260533.

3.5 Guarantee workmanship and material for a period of one year after final acceptance. During the warranty period, repair or replace faulty equipment at no cost to the Owner for labor, material, or expenses.

3.6 Upon completion of job, test entire system. After testing submit a certificate to the Architect stating verification of the following:

PART 4 - CLOSE-OUT DOCUMENTS

4.1 Provide the following documents to the Architect for delivery to the Owner at the time of substantial completion:

A. Written Guarantee
B. Two sets of data prepared by the manufacturer for each item of electrical equipment completely describing each piece of equipment. The data shall include parts lists, a description of operation, shop drawings, wiring diagrams, maintenance procedures, and other literature required for operation and maintenance of equipment.

4.2 Instruct the Owner on system operational procedures. Notify the Owner and Architect at least one week in advance of the training session. Provide written step-by-step instructional material.

4.3 Notify the General Contractor that you are to present during the Pre-final Inspection. During that inspection, demonstrate all system functionality and capabilities; remove cover plates and panels covers as required to show the quality of the installation. The Owner, Architect, and Engineer reserve the right to reject unsuitable workmanship or performance.

END OF SECTION 260926

SECTION 26-24-00
PANELBOARDS

PART 1 - GENERAL

1.1 Furnish and install all panelboards, complete with their circuit breakers, phase buses, neutral buses, ground buses, structural supports, and other equipment necessary for complete systems.

1.2 The equipment vendor shall perform all calculations necessary and provide complete Arc Flash Labels as required by the National Electrical Cod (NEC) and the drawings. Note: The drawings typically require more detail than required by the NEC.

PART 2 - PRODUCTS

2.1 GENERAL

A. Panelboards shall be designed, manufactured, and tested to be in compliance with NEMA PB 1, UL 50, UL 67, UL 489, NFPA 70, and the ASTM.

B. Circuit breakers shall be designed, manufactured, and tested to be in compliance with NEMA AB 1, UL 489, and Federal Specification W-C-375B/GEN.

C. Panelboards shall be UL listed for service entrance where used for that purpose.

D. Panelboard ampere interrupting current (AIC) ratings shall equal the lowest rated device in the panelboard. Provide panelboards with the AIC ratings shown on the Contract Drawings. Buses shall be braced to withstand the AIC rating shown on the drawings. Series ratings shall only be used where shown on the panelboard schedules.

E. All panelboards shall be furnished with dead-front, door-in-door construction.

F. Lug locations shall be determined during the creation of shop drawings for proper arrangement with the raceway system.

G. Buses shall be constructed of 98% conductivity copper or equivalently rated aluminum.

H. Panelboard enclosures shall be NEMA 1 when they are to be mounted indoors, and NEMA 3R when they are to be mounted outdoors. Provide special enclosures where shown on the Contract Drawings.

2.2 ACCEPTABLE MANUFACTURERS

Panelboards shall be manufactured by Siemens, Square D, General Electric, or Cutler Hammer.

2.3 PANELBOARD CLASSES

A. Power distribution panelboards shall be available with mains and branch devices up to 1200 amperes. AIC ratings shall be available up to 200,000 Amperes. Power distribution panelboards shall be equipped with a nameplate containing the appropriate system voltage, number of wires, and number of phases for the system on which they are installed.

B. In 480Vac and less applications where a main breaker not exceeding 600 Amperes is required, the AIC rating does not exceed 65,000 Amperes, and no branch breakers exceed 125Amperes, Square D NF and equivalent panelboards may be used.

C. In 480Vac and less applications where a main breaker not exceeding 225 Amperes is required, the AIC rating does not exceed 14,000 Amperes, and no branch breakers exceed 100Amperes, Square D NEHB and equivalent panelboards may be used.

D. In 240Vac and less applications where a main breaker not exceeding 400 Amperes or main lugs not exceeding 600 Amperes is required, the AIC rating does not exceed 22,000 Amperes, and no branch breakers exceed 125 Amperes, Square D NQOD and equivalent panelboards may be used.

2.4 CIRCUIT BREAKERS

A. Circuit breakers shall be thermal magnetic, molded-case with quick-make, quick-break contact action. They shall have thermal and magnetic tripping elements on each pole. Breakers with multiple poles shall have common tripping of all poles. Circuit breaker ampere ratings shall be stamped on the handle. Interrupting ratings of the circuit breakers shall be equivalent to the specified AIC rating of the panelboard. Breakers handles shall reside in a position between "ON" and "OFF" after a trip condition. Breakers shall be rated HACR when used for heating, air-conditioning, and refrigeration; HID when used with High Intensity Discharge fixtures; and shall be rated SWD when used for switching duty.

B. Circuit breaker sizes for motor loads are based on Square D recommendations for use of their breakers at the motor horsepowers listed on the mechanical drawings. If equipment is used other than Square D, adjust breaker sizes per the manufacturer's recommendations.

C. Each circuit breaker supplying a multiwire branch circuit shall be installed with a manufacturer supplied handle tie to simultaneously disconnect all ungrounded conductors. Each multiwire branch circuit shall comply with NEC article 210.4.

D. Circuit breakers with slash ratings, such as 120/240V or 480Y/277V, shall be used in solidly grounded systems where the nominal voltage of any conductor to ground does not exceed the lower of the two values of the breaker's voltage rating and the nominal voltage between any two conductors does not exceed the higher value of the circuit breaker's voltage rating.

E. Circuit breakers with straight voltage ratings, such as 240V or 480V, shall be used in systems other than solidly grounded systems (Corner-Grounded Delta, Ungrounded, Impedance Grounded, etc.) where the nominal voltage between any two conductors does not exceed the circuit breaker's voltage rating. A two-pole circuit breaker shall not be used to protect a three-phase, Corner-Grounded Delta system unless the circuit breaker is marked 1Φ-3Φ.

PART 3 - EXECUTION

3.1 Install panelboards in complete compliance with all manufacturers' installation instructions.

3.2 Install conductors neatly in panelboards. Group and tie-wrap circuits that share a common neutral.

3.3 Number circuits exactly as shown on the contract drawings.

END OF SECTION

SECTION 26-28-00
DISCONNECTS AND SEPARATELY-MOUNTED CIRCUIT BREAKERS

PART 1 - GENERAL

Furnish and install all disconnects and separately mounted circuit breakers as shown on the drawings, specified herein, and required by the NEC.

PART 2 - PRODUCTS

2.1 GENERAL

A. Disconnects shall be of the heavy-duty type, and shall be UL listed for service entrance use. They shall meet or exceed the requirements of NEMA Standard KS1. Provide fuses sized to appropriately protect the load served. Equipment manufacturer's recommendations shall take precedence over the Contract Drawings.

B. Fuses shall be dual element, time-delay, Class J fuses. They shall be Bussman Low-Peak or approved equal.

C. Circuit breakers shall be thermal magnetic, molded-case with quick-make, quick-break contact action. They shall have thermal and magnetic tripping elements on each pole. Breakers with multiple poles shall have common tripping of all poles. Circuit breaker ampere ratings shall be stamped on the handle. Interrupting ratings of the circuit breakers shall be equivalent to the specified AIC rating of the panelboard. Breakers handles shall reside in a position between "ON" and "OFF" after a trip condition. Breakers shall be rated HACR when used for heating, air-conditioning, and refrigeration; HID when used with High Intensity Discharge fixtures; and shall be rated SWD when used for switching duty.

D. Circuit breaker sizes for motor loads are based on Square D recommendations for use of their breakers at the motor horsepowers listed on the mechanical drawings. If equipment is used other than Square D, adjust breaker sizes per the manufacturer's recommendations.

E. Circuit breakers with slash ratings, such as 120/240V or 480Y/277V, shall be used in solidly grounded systems where the nominal voltage of any conductor to ground does not exceed the lower of the two values of the breaker's voltage rating and the nominal voltage between any two conductors does not exceed the higher value of the circuit breaker's voltage rating.

SECTION 26-28-00
DISCONNECTS AND SEPARATELY-MOUNTED CIRCUIT BREAKERS (CONT.)

F. Circuit breakers with straight voltage ratings, such as 240V or 480V, shall be used in systems other than solidly grounded systems (Corner-Grounded Delta, Ungrounded, Impedance Grounded, etc.) where the nominal voltage between any two conductors does not exceed the circuit breaker's voltage rating. A two-pole circuit breaker shall not be used to protect a three-phase, Corner-Grounded Delta system unless the circuit breaker is marked 1Φ-3Φ.

G. Disconnect and individually-mounted circuit breaker ampere interrupting current (AIC) ratings shall equal the rating of the panelboard from which they are fed unless otherwise noted.

H. Buses shall be constructed of 98% conductivity copper or equivalently rated aluminum.

I. Switches shall be horsepower rated where used to serve motors.

J. Enclosures shall be NEMA 1 when they are to be mounted indoors, NEMA 3R when they are to be mounted outdoors, and NEMA 4X where they are subject to washdown. Provide special enclosures where shown on the Contract Drawings.

2.2 ACCEPTABLE MANUFACTURERS

Disconnects and separately-mounted circuit breakers shall be manufactured by Siemens, Square D, General Electric, or Cutler Hammer.

PART 3 - EXECUTION

3.1 Install disconnects and individually-mounted circuit breakers in complete compliance with all manufacturers' installation instructions. Where necessary, provide structural supports and bracing for installation.

3.2 Disconnects are to be surface-mounted.

3.3 Individually-mounted circuit breakers are to be flush-mounted unless otherwise shown.

END OF SECTION

1

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RIDGELAND, MS 39157
VOICE (601) 605-4820
FAX (601) 605-4875
TPS PROJ. # 21238

WBA ARCHITECTURE

BLM OFFICE RENOVATIONS

3405 Hwy. 80 E
Pearl, MS

CHRISTOPHER L. GREER
167758
REGISTERED
PROFESSIONAL ENGINEER
12/9/21
STATE OF MISSISSIPPI

WBA # 21-069

REVISIONS

NO.	DESCRIPTION	DATE
1	ADD #1	1-10-2022

E005
ELECTRICAL SPECS

SPECIFICATIONS

SECTION 26-51-00
LIGHTING

SECTION 265100 - LIGHTING

PART 1 - GENERAL

Provide all lighting fixtures (luminaires), lamps, end caps, connectors, fittings, structural support members, supports, brackets, etc., for a complete and operable lighting system.

PART 2 - PRODUCTS

2.1 LUMINAIRES

A. Luminaires are shown in the Luminaire Schedule on the drawings to establish a standard of quality. Manufacturer's names and model numbers shall not be interpreted as a proprietary specification. Notify the engineer at least two weeks prior to bid if an equivalent for a fixture listed in the schedule is not readily available,

B. Prior to submitting electrical equipment brochures for review and approval, coordinate with the General Contractor and verify that the fixtures are appropriate for the ceiling types in which they are shown to be installed. Also verify that ballast voltage on the submittals is appropriate for the electrical system on which the fixtures are to be installed (regardless of voltage listed in the part number in the Fixture Schedule). Submit with equipment brochures a certificate stating that these items of coordination have been completed.

2.2 LED

A. LED fixtures shall be LM79 and LM80 tested. Color temperature shall be as specified on the drawings.

B. Lumen outputs listed on the drawings are minimum requirements.

C. Fixtures shall have a minimum 80CRI.

2.3 BATTERIES

A. Emergency Batteries: Emergency batteries in fixtures shall consist of an automatic power failure device, a test switch, and a pilot light that is visible from outside of the fixture. They shall contain a fully automatic solid state charger in a self-contained power pack. The fixture shall be factory wired in a manner that will allow the emergency lamps to be switched while still maintaining charging power to the battery. Wiring Diagrams shall be furnished with the fixture showing switching connections. The battery shall be of the sealed electrolyte type with the capacity to provide power to the lamps provided for a minimum of 90 minutes.

The battery shall be able to operate unattended with no maintenance for a period of no less than five years. Emergency batteries shall be fully compatible with solid state ballasts. Battery packs shall be mounted inside the fixture unless remotely mounted ballasts are shown on the drawings.

2.4 SUPPORTS

A. Provide all structural members necessary to support fixtures in locations shown on the contract drawings. Submit mounting and support details to the Architect or Engineer for approval with the project shop drawings. Notify the General Contractor prior to bid of any structural work that will be required to support the fixtures.

B. Provide hangers, cords, stems, etc., where required. Coordinate with the Architect or Engineer for proper stem lengths prior to ordering fixtures.

C. Support the ceiling grid at all four corners of recessed light fixtures.

D. Provide clips for fixtures installed in lay-in ceilings. Clips shall be equal to Erico Caddy clips # 515 or #515A.

PART 3 - EXECUTION

3.1 Raceways for lighting systems in accessible ceilings shall be run to junction boxes mounted in locations that do not interfere with the ceiling installation, the luminaire installation, or other building systems. Provide final connections to fixtures using conductors in flexible conduit. Flexible conduit whips shall not exceed six feet in length.

3.2 All recessed fixtures shall be mounted with their trims flush against the ceiling.

3.3 Comply completely with all manufacturers' installation instructions.

3.4 LED fixtures shall be warranted for 5 years after beneficial occupancy.

END OF SECTION 265100

SECTION 28-31-00
FIRE ALARM SYSTEM

PART 1 - GENERAL

1.1 GENERAL

A. Furnish and install a complete and operable fire alarm system in accordance with the Contract drawings and all federal, state, and local codes. Equipment on the drawings represents the absolute minimum required for the project. Include costs for all other required devices and equipment required for a complete and operable code compliant system. Notify the engineer in writing of any devices required by code, but not shown, at least ten days prior to bid.

B. Comply completely with the latest edition of all applicable federal, state, and local codes including, but not limited to the following:
1) National Electrical Code (NFPA 70)
2) Life Safety Code (NFPA 101)
3) National Fire Alarm Code (NFPA 72)
4) The International Building Code
5) ANSI/ASME A17.1, Safety Code for Elevators and Escalators

1.2 SCOPE OF WORK

A. Provide all enclosures, hardware, software, devices, and all other components, material, and labor required to install, configure, and test the entire system to the satisfaction of the Engineer and all authorities.

B. All components of the system shall be manufactured by the same company. The system and its components shall be approved by UL and Factory Mutual.

C. All system components shall be installed by a franchised distributor of the fire alarm system having a repair and service department on call 24 hours a day, seven days a week. The repair and service department shall be located within 150 miles of the project.

D. Submit complete shop drawings showing all devices including mounting locations and heights and terminal-to-terminal connections. **Employ an independent third party testing agency that will be involved in certification of the system to review the shop drawings to ensure compliance with the contract documents and all applicable codes.**

PART 2 - PRODUCTS

2.1 Provide an intelligent, addressable fire alarm control panel complete with all equipment necessary to monitor and control the devices shown. The system shall sound a non-coded general alarm. Upon an alarm condition, the fire alarm control panel shall automatically report the alarm condition to a monitoring agency. Provide all telephone connections, circuitry, and conduit to perform this functionality back to the telephone backboard. [The fire alarm system shall be capable of producing voice announcements through the system speakers].

2.2 Provide a NiCad battery sized to operate the control panel without normal power for 24 hours, and then to alarm the panel continuously for at least five minutes. Submit battery sizing calculations with the manufacturer's cut sheets and shop drawings.

2.3 All devices shall be addressable and shall be electrically supervised.

2.4 Smoke detectors shall be of the photoelectric type.

2.5 Duct detectors shall be of the air sampling type. Furnish complete with sampling tubes and duct housings.

2.6 Smoke detectors mounted under raised computer floors shall be of the photoelectric type. They shall be UL listed for installation in plenums.

2.7 Pull stations shall be of metallic construction. They shall be furnished with lexan shields and warning horns.

2.8 Horns shall be rated a minimum of 85 dB at 10'.

2.9 Speakers shall be square. They shall be wall-mounted to a 4" square box. They shall produce a minimum sound level of 85dB at 10'. They shall have adjustable taps for volume level adjustment.

2.10 Strobes shall have a nominal rating of at least 75 Cd.

2.11 Combination horn-strobe units or speaker-strobe units shall meet the specified requirements of the individual horns, strobes, and speakers.

2.12 Monitor all sprinkler system flow switches at the facility. Provide an alarm upon flow indication.

2.13 Monitor all sprinkler system tamper and supervisory switches at the facility. Provide a trouble signal upon tamper indication.

2.14 Provide duct detectors in the return duct of all air units. If a fresh air intake duct is installed, all duct detectors shall be mounted upstream of the intake duct. For air units with flow ratings greater than 15,000 CFM, provide duct detectors in both the return and supply ducts.

2.15 Provide all necessary relays and circuitry, and shut down all air units upon an alarm condition of the fire alarm system.

2.16 Provide all necessary equipment and circuitry for control of the elevator in accordance with ANSI/ASME A17.1, Safety Code for Elevators and Escalators.

2.17 Provide all necessary equipment and circuitry to automatically release the magnetic door locks upon an alarm of the Fire Alarm System.

2.18 Conductors shall be #14 AWG copper rated THHN/THWN. Provide larger conductors where required to compensate for voltage drop.

PART 3 - EXECUTION

3.1 All components and circuitry shall be assembled and installed per the requirements of all applicable codes and the manufacturer's recommendations.

3.2 All devices shall be mounted with their boxes flush in the walls.

3.3 Smoke detectors shall be mounted at least 36" away from supply vents.

3.4 All outlet boxes, junction boxes, and cover plates shall be painted red.

3.5 All circuitry shall be in concealed conduit sized per the NEC, but no less than ½" EMT. All fire alarm conduits shall be painted red.

3.6 The Fire Alarm System Contractor shall employ an independent third party testing agency to test and certify all system components, including each smoke detector, duct detector, and pull station prior to the pre-final inspection. All systems shall be completely operable prior to the request for a pre-final site observation. The system shall be tested in the presence of the Owner, Architect, and Engineer at the prefinal site observation.

SECTION 28-31-00
FIRE ALARM SYSTEM (CONT.)

3.7 Provide a one-year warranty for the system and all components. The warranty shall begin at the date of final acceptance of the building. During the warranty period, the system shall be repaired or replaced as necessary at no cost to the Owner. During the warranty period, a technician shall be on the job site within twenty-four hours of a problem report from the Owner.

END OF SECTION

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CHRISTOPHER L. GREER
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12/8/2021
STATE OF MISSISSIPPI

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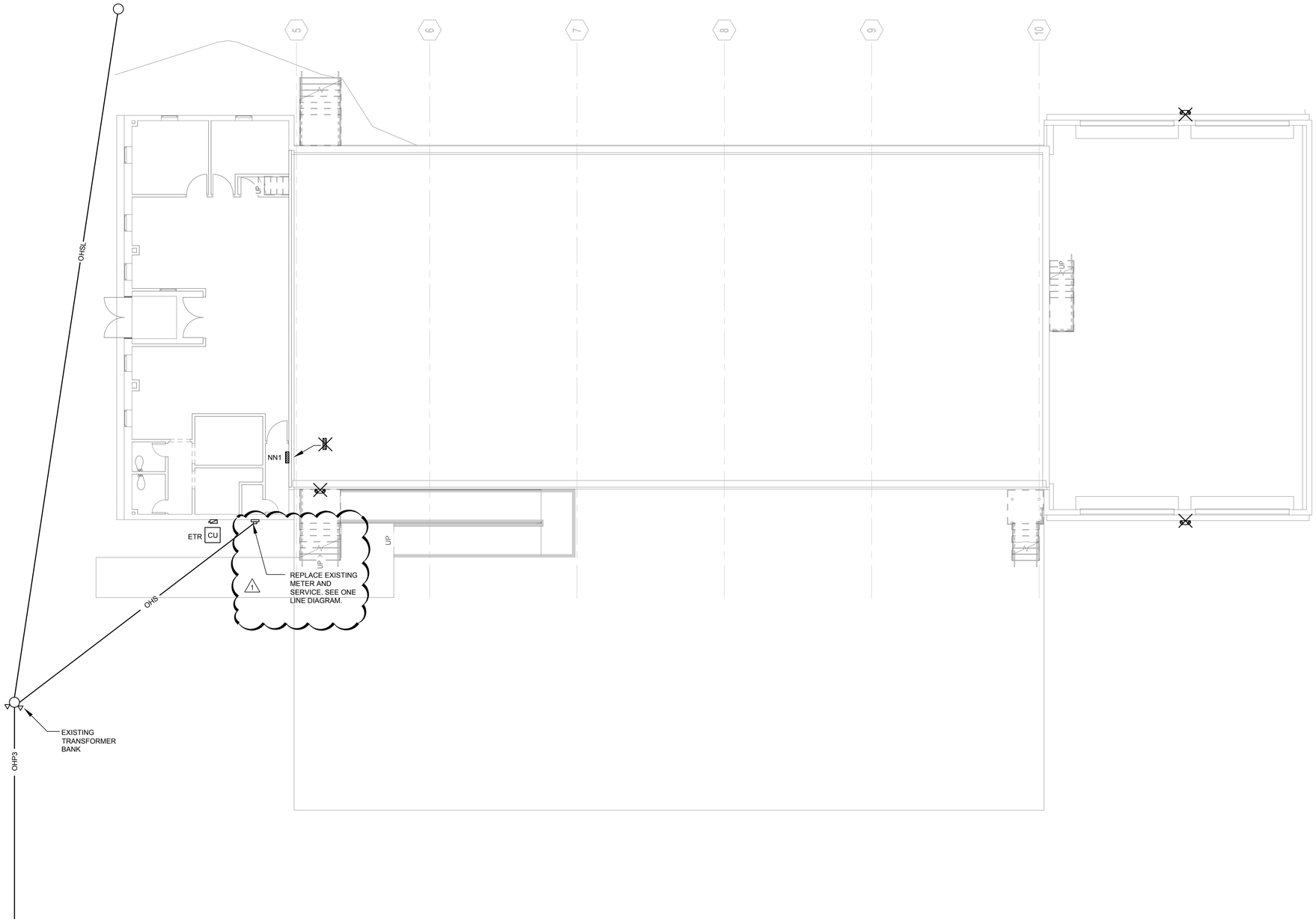
E006
ELECTRICAL SPECS



OHS — OVERHEAD SECONDARY BY ENTERGY

OHP3 — EXISTING 3Ø OVERHEAD PRIMARY

OHSL — EXISTING OVERHEAD SECONDARY FOR LIGHTING

1 ED100 DEMOLITION PLAN

Scale: 1/8" = 1'- 0"

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ED100
DEMOLITION PLAN

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CHRISTOPHER L. GREEN 167?? PROFESSIONAL ENGINEER 12/31/2021 STATE OF MISSISSIPPI

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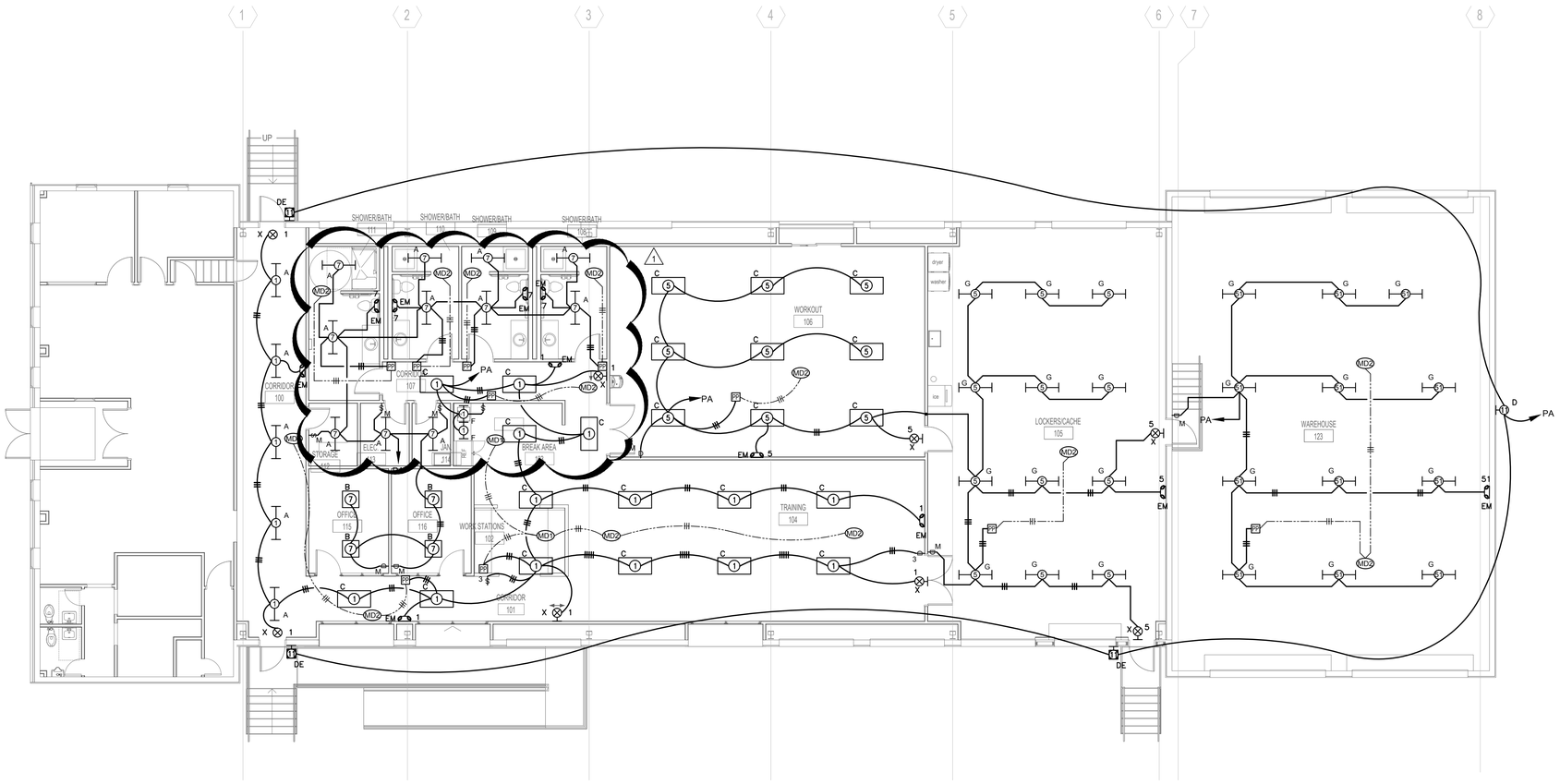

1 E100 LIGHTING PLAN
Scale: 1/8" = 1'- 0"

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E100
LIGHTING PLAN

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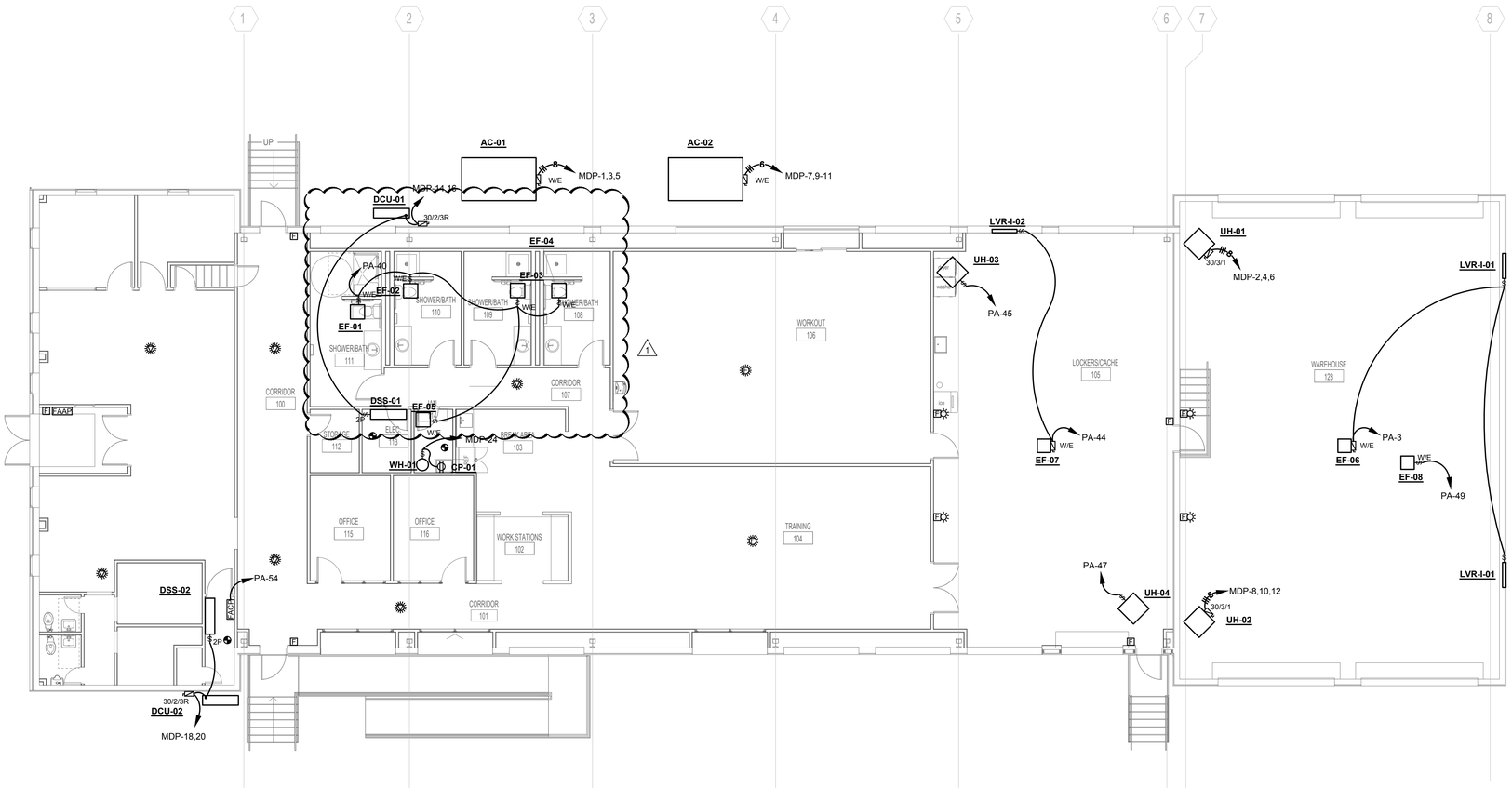

1 E200 MECHANICAL/AUXILIARY PLAN
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E300
POWER PLAN